McQuay®
Air Conditioning

SERVICE GUIDE BOOK

McQuay®
Air Conditioning

Engineered for flexibility and performance.™

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1.0 MODEL NAME

1.1 Product Name Description

No.	Description	Generic Model Name	MCQUAY Brand
1	Wall Mounted Fan Coil Unit	WM / 5WM	MWM / M5WM
2	Wall Mounted AC Inverter Fan Coil Unit	WMV	MWMV
3	Wall Mounted DC Inverter Fan Coil Unit	5WMX	M5WMX
4	Wall Mounted DC Inverter-Y Fan Coil Unit	5WMY	M5WMY
5	Ceiling Exposed Fan Coil Unit	CE / 5CE	MCM / M5CM
6	Ceiling Exposed Inverter-Y Fan Coil Unit	5CEY	M5CMY
7	Ceiling Cassette Fan Coil Unit	CK / 5CK	MCK / M5CK
8	Ceiling Cassette Inverter-Y Fan Coil Unit	5CKY	M5CKY
9	Ceiling Concealed Fan Coil Unit	CC / 5CC	MCC / M5CC
10	Ceiling Concealed Inverter-Y Fan Coil Unit	5CCY	M5CCY
11	Ducted Split Blower Unit	SB	MDB
12	Chilled Water Fan Coil Unit	CW	MCW
13	Water Source Heatpump Split Unit	WSS / 5WSS	MWSS / M5WSS
14	Horizontal Water Source Heatpump Unit	WH	MWH
15	Air Cooled Mini Chiller	AC / 4AC / 5AC	MAC / M4MAC / M5MAC
16	Single Split Condensing Unit	SL / 4SL / 5SL	MLC / M4LC / M5LC
17	Single Split AC Inverter Condensing Unit	SLV	MLCV
18	Single Split DC Inverter Condensing Unit	5SLX	M5LCX
19	Single Split DC Inverter Condensing Unit	5SLY	M5LCY
20	Modular Split Condensing Unit	MSS / 4MSS	MMC / M4MC
21	Multi Split Series	MSD / 4MSD MST / 4MST MSH	MMSD / M4MSD MMST / M4MST MMSH
22	Multi Split AC Inverter Condensing Unit	MSV	MMSV
23	Multi Split DC Inverter Condensing Unit	5MSX	M5MSX
24	Multi Split DC Inverter Condensing Unit	5MSY	M5MSY
25	Multi Digital Scroll Units	MDS/ 5MDS	MDS/ 5MDS
26	Horizontal Condensing Unit	HDC / 5HDC	AHDC / A5HDC
27	Vertical Condensing Unit	VCU	MVCU
28	Air Cooled Roof Top Packaged Air Conditioner	RT / 4RT / 5RT	MRT / M4RT / M5RT
29	Air Cooled Inverter Mini Chiller	5ACV	M5ACV

2.0 CONVERSION TABLE

2.1 Conversion Table

Capacity

Btu/hr	MBH	kCal/Hr	kW
1	0.001	0.252	0.293×10^{-3}
1000	1	252	0.293
3.968	0.004	1	1.162×10^{-3}
3412	3.412	860.04	1

Pressure

PSI	kg/cm^2	W.G.		Pascal (Pa)
		(in.)	(ft.)	
1	0.07	27.7	2.309	0.69×10^{4}
14.22	1	394.08	32.84	9.81×10^{4}
3.61×10^{-2}	2.538×10^{-3}	1	0.083	248.84
1.45×10^{-4}	0.1×10^{-4}	0.004	3.349×10^{-4}	1

Flow Rate

L/s	m^3/hr	m^3/s	U.S. GPM	CFM
1	3.6	0.001	15.85	2.119
0.278	1	0.278×10^{-3}	4.403	0.588
1000	3600	1	15850	2119
0.063	0.227	0.063×10^{-3}	1	0.1337
0.472	1.7	0.472×10^{-3}	7.481	1

Temperature

°F = (1.8 x °C) + 32

$$°C = \frac{°F - 32}{1.8}$$

Velocity

fps	m/s	fpm
1	0.305	60
3.281	1	196.9
0.017	0.005	1

Volume

L	m^3	U.S. G.P.M.	ft^3
1	0.001	0.264	0.0353
1000	1	264	35.3
3.785	3.785×10^{-3}	1	0.134
28.315	0.028	7.48	1

Area

in^2	ft^2	m^2	cm^2
1	6.94×10^{-3}	6.452×10^{-4}	6.452
144	1	0.093	929.03
1550.06	10.764	1	1×10^{4}
0.155	1.076×10^{-3}	1×10^{-4}	1

3.0 PRODUCT MAINBOARD VS. HANDSET MATRIX

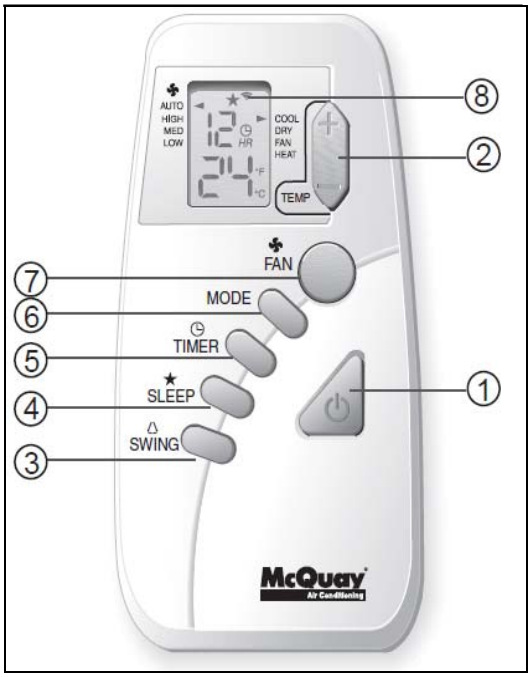
3.1 Product Mainboard vs. Handset Matrix

Type	No.	Main Board / Model	L2.0	L2 GSN	L2 08A	R_1_ 01A	W_2_ 03A	C_2_ 01A	2P2065 69-4	U1 SB125	SQ 2.0	VA2.0	VA3.0	Handset	
														Standard	Optional
DX	1	WM - F Series	✓											G17	SLM3+AC5300/Netware 3/SLM8
	2	WM - G Series	✓											G17	SLM3+AC5300/Netware 3/SLM8
	3	WMS - G Series	✓											G17	SLM3+AC5300/Netware 3/SLM8
	4	WM – J Series		✓										GS01	-
	5	CK - A/B/C/E Series			✓									G17/GS01	SLM3+AC5300/Netware 3/SLM8
	6	CE - D Series			✓									G17	SLM3+AC5300/Netware 3/SLM8
	7	CE - E Series			✓									G17	SLM3+AC5300/Netware 3/SLM8
	8	CC - C Series			✓									SLM3	Netware 3 / SLM8
	9	CC - D Series			✓									Netware 3	SLM3
	10	SB - B/C Series													
		SB 75 – 100B/BR			✓									SLM3	Netware 3 / SLM8
		SB 125 – 150B/BR								✓				SLM3	-
		SB 125CR								✓				SLM3	-
		SB 150B2/BR2 – 600B4/BR4									✓			SQ-LCD	-
	11	SB – D/ER Series													
		SB 75 – 100D/ER			✓									SLM3	Netware 3 / SLM8
		SB 125 – 150D/ER								✓				SLM3	-
		SB 125D2 – 500D4									✓			SQ-LCD	-
		SB 125ER2 – 600ER4									✓			SQ-LCD	-
	12	RT Series													
		RT 55 – 120A/AR								✓				SLM3	-
		RT 150 – 420A/AR									✓			SQ-LCD	-
		5RT 90 – 250BR				✓								RT Panel	-
	13	WMX – F/G Series										✓		G17	SLM3 + AC5300
		CKX – A/C Series											✓	G17	SLM3 + AC5300
		CEX – E Series											✓	G17	SLM3 + AC5300
		CCX – C Series											✓	SLM3	Netware 3 / SLM8
	14	WMY – J Series					✓							G17/GS01	-
	15	WMY – K Series							✓					APJ1	-
	16	CKY – E Series CEY – E Series CCY – C Series						✓ ✓ ✓						GS01 GS01 Netware 3C	Netware 3C

Type	No.	Main Board (IC) / Model	W2	MC1.0	LWS2	APM01CB	APM02D	Handset	
								Standard	Optional
CW FCU	13	WM – GW Series	✓					G17	SLM3+AC5300/Netware 3/SLM8
	14	CK – AW/MWH/CW Series	✓					G17	SLM3+AC5300/Netware 3/SLM8
	15	CE – DW Series	✓					G17	SLM3+AC5300/Netware 3/SLM8
	16	CE – EW Series	✓					G17	SLM3+AC5300/Netware 3/SLM8
	17	CC – CW Series	✓					SLM3	Netware 3 / SLM8
	18	SB – BW Series	✓					N/A	-
Mini Chiller	19	AC – C Series							
		AC 20 – 60C/CR		✓				C. Panel	-
		AC 80 – 150C/CR		✓				C. Panel	-
		5AC 20 – 25C/CR		✓				C. Panel	-
		5AC 30 – 55C/CR		✓				C. Panel	-
WSHP	20	5WMWS – GR			✓			G17	SLM3+AC5300/Netware 3/SLM8
	21	5CKWS – AR/CR			✓			G17	SLM3+AC5300/Netware 3/SLM8
	22	5CCWS – CR			✓			SLM3	Netware 3 / SLM8
	23	WH – B Series							
		WH 11 – 20B/BR				✓		SLM15A	-
		WH 25 – 70B/BR					✓	APW04A	-

4.0 HANDSET OPERATING GUIDE

4.1 G6



Operation Guide

1. "ON/OFF" Switch

2. Temperature Setting
   - Press button to increase or decrease the set temperature. Setting range are between 16°C to 30°C setting (60°F to 80°F) (Optional setting from 20°C to 30°C).
   - Press ▲ or ▼ button simultaneously will toggle the temperature setting between °C and °F.

3. Automatic Air Swing
   - The swing angle ranging from horizontal to 25° to bottom.

4. "SLEEP" MODE
   - This function can be activated in COOL, HEAT & AUTO mode operation. If it is activated in "COOL" mode, the set temperature will be increase 0.5°C after 30 minutes, 1°C after 1 hour and 2°C after 2 hours. Whereas in "HEAT" mode, the set temperature will decrease by 1°C after 30mins, 2°C after 1 hour and 3°C after 2 hours.

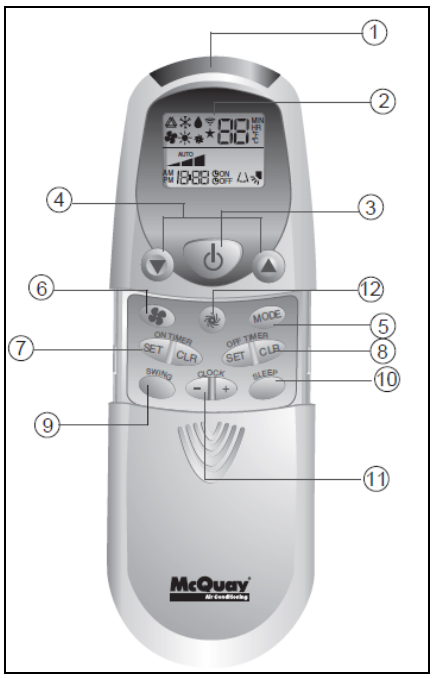
5. Timer Setting
   - Press button to activate the timer setting (from 1 hour to 15 hour) of the air conditioning unit. To cancel the timer setting, press the button continuously until the timer display goes off.

6. Operation Modes
   - Cooling only unit : Cool →Dry →Fan
   - Heatpump unit : Auto →Cool →Dry →Fan →Heat

7. Fan Speed and Ventilation Mode Selection

8. Signal Transmission Indication
   - Blink to confirm the last setting has been send to the unit.

4.2 G7



Operation Guide

1. Transmission Source

2. Signal Transmission Indication
   - Blink to confirm the last setting has been send to the unit.

3. On/Off Button

4. Temperature Setting
   - The temperature setting range is from 16°C to 30°C (Optional setting 18°C to 30°C).
   - Press both buttons simultaneously to toggle the temperature setting between °C and °F.

5. Operation Mode
   - Cooling only unit: COOL, DRY & FAN.
   - Heatpump unit: AUTO, COOL, DRY, FAN & HEAT.

6. Fan Speed Selection

7. On Timer Setting

8. Off Timer Setting

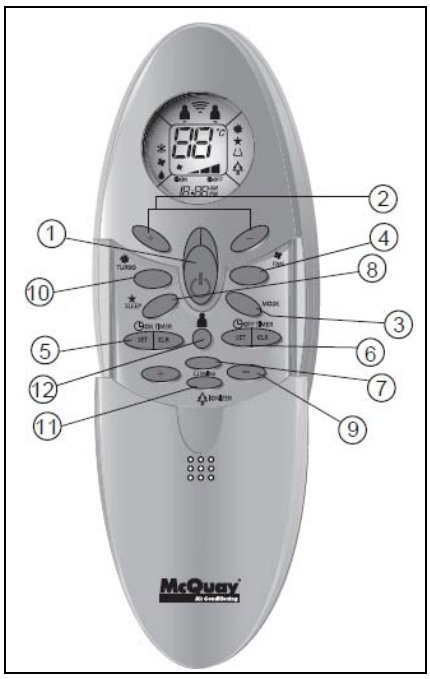
9. Automatic Air Swing (Optional)
   - Press button to activate the automatic air swing function. Press again to stop the louver at the desired direction.

10. Sleep Mode Setting
    - This function is available under COOL, HEAT & AUTO mode.
    - When it is activated in COOL mode, the set temperature will be increased 0.5°C after 30mins, 1°C after 1 hour and 2°C after 2 hours.
    - When it is activated in HEAT mode, the set temperature will be decreased 1°C after 30mins, 2°C after 1 hour and 3°C after 2 hours.

11. Clock Time Setting
    - Press button + or - to increase or decrease the clock time.

12. Turbo Function (Optional-Only Applicable To Inverter Unit)
    - Press button for fast cooling or heating operation.
    - The temperature will be increased internally if it is in the HEAT mode, decreased if in COOL or DRY mode. Fan speed will be increased if it is not at maximum speed.
    - The temperature & fan speed will resume to user setting if the button is pressed again or after 20mins.
    - Available under HEAT, COOL & DRY modes only.

4.3 G11



Operation Guide

1. “ON/OFF” Button

2. Temperature Setting
   - The temperature setting range is from 16°C to 30°C.
   - Press both buttons simultaneously to toggle and from ▲ °C to▼ °F setting.

3. Operation Mode
   - Cooling only unit: COOL (❄), DRY (💧) and FAN (🌀).
   - Heat pump unit: AUTO, COOL (❄), DRY (💧), FAN (🌀) and HEAT (☀).

4. Fan speed selection
   - Press the button continuously will toggle the fan speed in the following order: Low (▁) ——: Med (▁▃) ——: High (▁▃▅) ——: Auto

5. ON Timer Setting

6. OFF Timer Setting

7. Automatic Air Swing
   - Press the SWING (♺) button to activate the automatic air swing function. Press again to stop the louver at the desired direction.

8. Sleep Mode Setting
   - This function is available under COOL, HEAT and AUTO mode.
   - When the unit is operating under cooling mode, the set temperature is increased by 0.5°C after 30 minutes, 1°C after an hour, and 2°C after 2 hours.
   - When the unit is operating under heating mode, the set temperature is decreased by 1°C after 30 minutes, 2°C after an hour and 3°C after 2 hours.

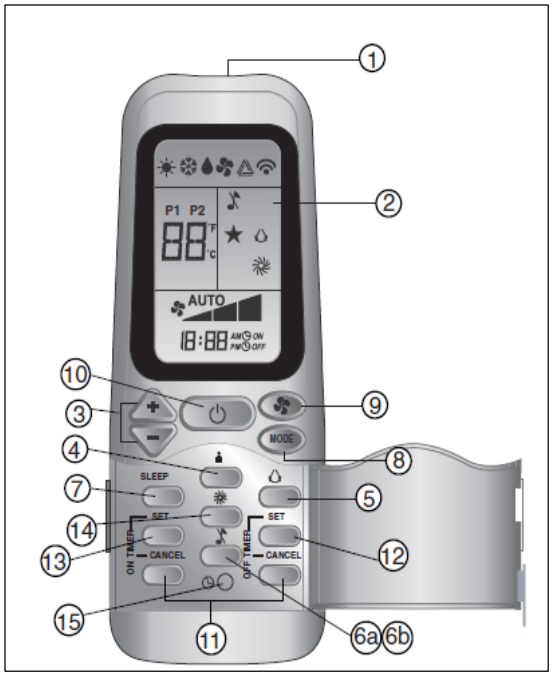
9. Clock Time Setting
   - Press + button to increase the clock time.
   - Press – button to decrease the clock time.

10. Turbo Mode
   - Press the TURBO (🌀) button to achieve the required set temperature in a short time.

11. Ionizer
   - Press the Ionizer (🌲) button to activate the negative Ion function, which will refresh the indoor air effectively.

12. Personalize Setting
   - Press ☺ button and hold for 3s to initiate personalized setting
   - Set the individual setting e.g. MODE, SET TEMP or FAN SPEED and leave for 4s to save the setting into the program.
   - 2 groups of settings are allowed to store in the handset. Press once to activate the P1 setting, press again to cycle between P1 and P2.
   - Press any key to deactivate the personalize setting.

4.4 G17



Operation Guide

1. Transmission Source

2. Signal Transmission Indication
   - Blink to confirm that the last setting has been transmitted to the unit.

3. Temperature Setting
   - Temperature setting range is from 16°C to 30°C (optional setting 20°C to 30°C).

4. Personalize Setting
   - Press and hold for 3s, then will blink. Press again to cycle between and .
   - Set the desire setting, then leave the handset for 4s without pressing any key and it will save the setting into the program.
   - Press once to activate the P1 setting, press again to cycle between P1 and P2.
   - Press any key to deactivate the personalize setting.

5. Automatic Air Swing (optional)
   - Press the SWING button to activate the automatic air swing function. Press again to stop the louver at the desired direction.

6a. Silent Function (For WM – J Series only)
   - Press for quiet operation.
   - Fan speed turn to minimum speed.
   - Press again to deactivate the function.

6b. Ionizer Function (For WM - G series only)
   - Press button to activate the negative ion function, which will refresh the indoor air effectively.

7. Sleep Mode Setting
   - This function is available under COOL, HEAT and AUTO mode.
   - When under cooling mode, the set temperature is increased by 0.5°C after 30 minutes, 1°C after an hour, and 2°C after 2 hours.
   - When under heating mode, the set temperature is decreased by 1°C after 30 minutes, 2°C after an hour, and 3°C after 2 hours.

8. Operating Mode
   - Press the MODE button to select the type of operating mode.
   - For cooling only unit, the available modes are: COOL, DRY and FAN.

9. Fan Speed Selection
   - Press the button continuously will toggle the fan speed in the following order:

   Low → Med → High → Auto

   - Stop pressing when the desired fan speed appears on the display screen.

10. “ON/OFF” Button

11. Timer Cancel

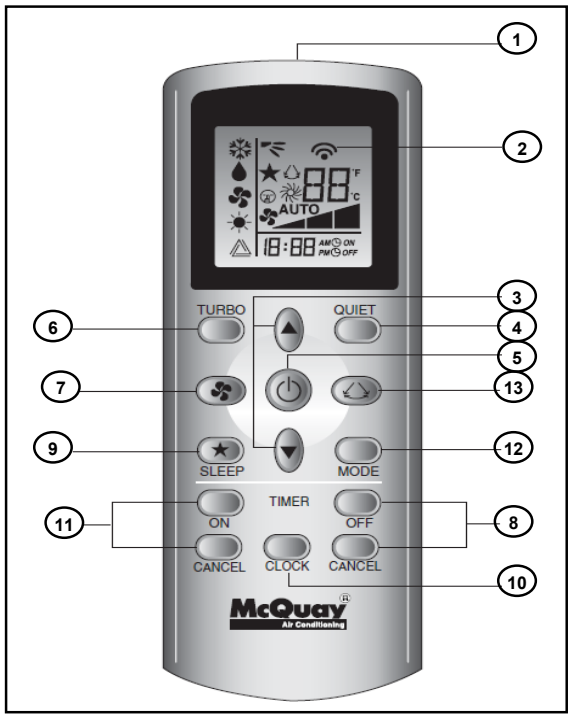
12. OFF Timer Setting

13. ON Timer Setting

14. Turbo Function
   - Press for fast cooling.
   - Fan speed turn to maximum speed.
   - Press again to deactivate the function.

15. Clock Time Setting
   - Press and hold to set the clock time.

4.5 GS01



Operation Guide

1. Transmission Source

2. Signal transmission indication
   - Blink to confirm that the last setting has been transmitted to the unit.

3. ON/OFF Button

4. Fan Speed selection
   - Press the button continuously will toggle the fan speed.

5. Operation mode
   - For cooling only unit: COOL, DRY and FAN.
   - For heat pump unit: AUTO, COOL, DRY, FAN and HEAT.
   - The AUTO mode is unavailable for chilled water system.

6. Automatic air swing
   - Press the SWING button to activate the automatic air swing function. Press again to stop the louver at the desired direction.

Swing mode selection (for CK-E model)
- Press SWING button for 4 seconds to enter field setting mode.
- While in field setting mode, it will only show SWING MODE.
- Press temperature button to select SWING MODE rotation from Swing Mode 1 to Swing Mode 3.
- There are 3 different SWING MODE, which are:

Mode 1 Mode 2 Mode 3

SWING MODE will not activate unless SWING is activated.
- If no mode changes within 4 seconds, unit will operate According to the selected SWING MODE.

7. Turbo function (model dependent)
   - Press for fast cooling or heating operation.
   - Fan speed turn to maximum speed for 15 minutes.
   - Press again to deactivate the function.
   - Available under HEAT, COOL and DRY modes only.

- Any change of fan speed will deactivate this function.
- The Turbo function is unavailable for chilled water system and remote control with SWING MODE function.

8. OFF timer setting

9. Quiet function (model dependant)
   - Press for quiet operation.
   - Fan speed turn to minimum speed.
   - Press again to deactivate the function.
   - Any change of fan speed will deactivate this function.
   - The Silent function is unavailable for chiller water system.

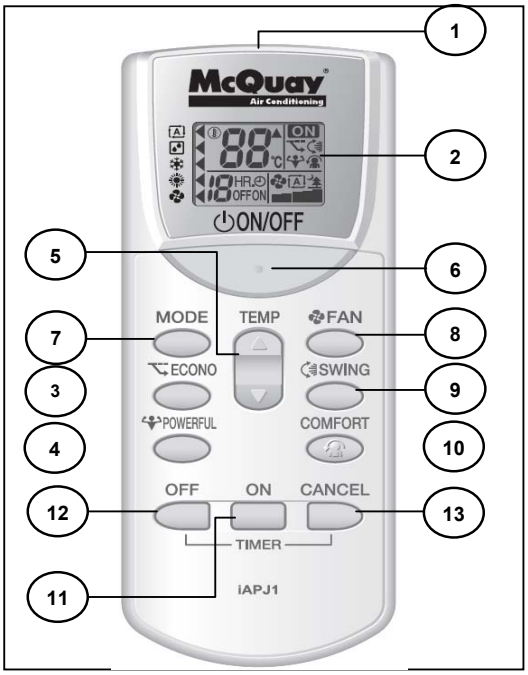
10. Clock time setting
    - Press and hold button to set the clock time.

11. ON timer setting

12. Sleep mode setting
    - This function is available under **COOL**, **HEAT** and **AUTO** mode.
    - When under cooling mode, the set temperature is increased by 0.5°C after the first half an hour, another 0.5°C after the second half an hour and 1°C after the following 1 hour.
    - When under heating mode, the set temperature is decreased by 1°C after the first half an hour, another 1°C after second half an hour and 1°C after the following hour.

13. Temperature setting
    - The temperature setting range is from 16°C to 30°C (Optional setting 20°Cto 30°C).
    - Press both buttons ▲ and ▼ simultaneously to toggle from °C to °F setting.

4.6 APJ1



Operation Guide

1. Transmission Source

2. LCD Display

3. ECONO button
   - ECON operation is a function which enables efficient operation by limiting the maximum power consumption value.
   - This function is useful for cases which attention should be paid to ensure a circuit breaker will not trip when the product runs along side other appliances.
   - Press ECONO button to start ECONO operation. The symbol is displayed on the LCD.
   - Press ECONO button to cancel ECONO operation. The symbol button disappears from the LCD.

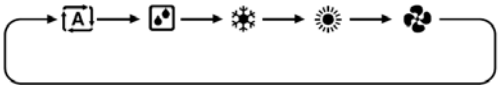
4. POWERFUL Button
   - POWERFUL operation quickly maximizes the cooling / heating effect in any operation mode.
   - To start POWERFUL operation, press POWERFUL button. is displayed on the LCD. POWERFUL operation ends in 20 minutes. Then the system automatically operates again with the previous settings which were used before POWERFUL operation.
   - To cancel POWERFUL operation, press POWERFUL button again. disappears from the LCD.

5. Temperature Settings.

6. ON/ OFF button

7. Mode Selector Button
   - It selects the operation mode (AUTO/ DRY/ COOL/ HEAT/ FAN).
   - Press MODE button to select operation mode. Each pressing of the button advances the mode setting in sequence.

: AUTO : DRY : COOL
: HEAT : FAN



8. FAN Operation
   - 5 levels of airflow rate setting from to plus & are available.
   - When the airflow is set to , the noise from the indoor unit will become quieter.

9. SWING Operation
   - To start auto swing, press SWING button and the symbol is displayed on the LCD.

- The flap (horizontal blade) will begin to swing.
- To set the flap at desired position, press SWING button when the flap has reached the desired position. The flap will stop moving. The symbol disappeared from the LCD.

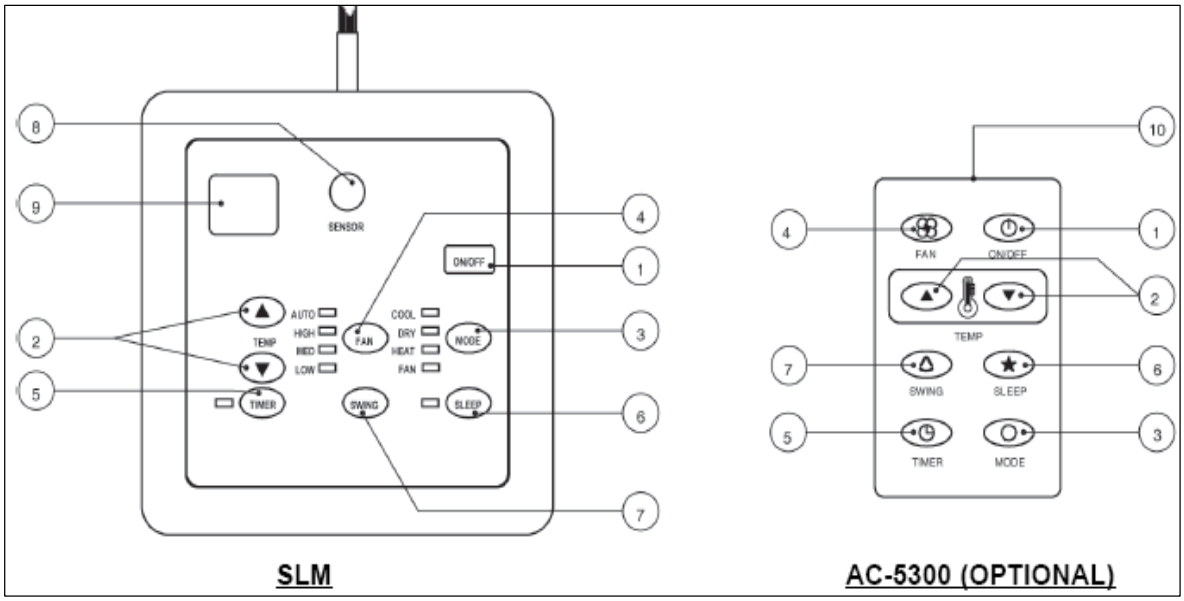
10. COMFORT AIRFLOW Operation
    - When COMFORT is enable, the flow of air will be upward direction while in COOL operation and in the downward direction while in HEAT operation, which will provide a comfortable wind that will not come in direct contact with people.
    - To start COMFORT AIRFLOW operation, press COMFORT button. The flap will change, preventing air from blowing directly on the occupants of the room. The symbol is displayed on the LCD.
    - Air flow rate is set to AUTO. COOL/ DRY: The flap will go up. HEAT: The flap will go down.
    - To cancel COMFORT AIRFLOW operation, press COMFORT button again. The flap will return to the memorized position before the COMFORT AIRFLOW operation.
    - The symbol will disappear from the LCD.

11. ON TIMER Operation
    - To use ON TIMER operation, press ON button.
    - HR, ON is displayed on the LCD. Each pressing of ON advances the time setting by 1 hour. The timer can be set between 1 to 12 hours.
    - To cancel ON TIMER operation, press CANCEL button. HR, ON will disappear from the LCD.

12. OFF TIMER Operation
    - To use OFF TIMER operation, press OFF button.
    - HR, OFF is displayed on the LCD. Each pressing of OFF advances the time setting by 1 hour. The timer can be set between 1 to 9 hours.
    - To cancel OFF TIMER operation, press CANCEL button. HR, OFF will disappear from the LCD.

13. CANCEL Button

4.7 SLM3



Operation Guide

1. "ON/OFF" Switch

2. Temperature Setting
   - Setting range are between 16°C to 30°C (60°F to 80°F).

3. Operation Modes
   - Press the "mode" button for select the type of operating mode.
     -Cooling Only: COOL, DRY, FAN
     -Heat Pump: AUTO, COOL, DRY, HEAT, FAN
   - AUTO mode is represented by both COOL and HEAT LED light on.

4. Fan Speed Selection
   - Press the button until the desired fan speed is achieved.

5. Timer
   - Press the set button to select the switch timer of the air conditioner unit (the setting range is between 1 to 15 hours).

6. "SLEEP" Mode
   - This function can only be activated under "cool" or heating mode operation. When it is activated under "cool" mode operation, the set temperature will increase 0.5°C after 30 minutes, 1°C after 1 hour and 2°C after 2 hours. If it is activated under "HEAT" mode operation, the set temperature will be decreased 0.5°C after 30 minutes, 1°C after 1 hour and 2°C after 2 hours.

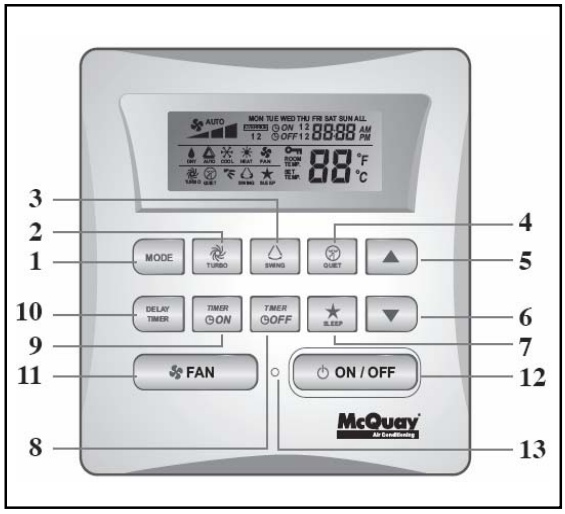
7. Air Swing
   - Press button to activate the automatic air swing function.

8. Sensor
   - Infra red sensor to receive signals from wireless controller.

9. LED Display
   - To display the set temperature (in °C) and timer delay setting (in hours).

10. Transmission Source

4.8 SLM8



No.	KEY	No.	KEY
1	MODE	8	OFF TIMER
2	TURBO	9	ON TIMER
3	SWING	10	DELAY TIMER
4	QUEIT	11	FAN
5	SET TEMP UP	12	ON/OFF
6	SET TEMP DOWN	13	REAL TIME CLOCK (RTC)
7	SLEEP		

Operation Guide

1. MODE Button
   - Press the MODE button to switch operation from COOL, HEAT, DRY*, FAN. DRY mode is available for selected models only.

2. TURBO Fan Speed
   - Press the TURBO key once to activate Turbo fan speed. Turbo symbol will be shown. To disable Turbo fan speed and BACK to previous fan speed, press the Turbo key once again. If user presses the FAN button or QUIET button or turn off the unit, the turbo speed will be disabled. This speed is only valid during COOL mode for selected models.

3. Automatic Air Swing
   - Press the SWING button to activate the automatic air swing function. Press again to stop the louver at the desired direction.

Swing mode selection (for selected model)
   - Press SWING button for 4 seconds to enter field setting mode.
   - While in field setting mode, it will only show SWING MODE.
   - Press temperature button to select SWING MODE rotation from Swing Mode 1 to Swing Mode 3.
   - There are 3 different SWING MODE, which are:

Mode 1 Mode 2 Mode 3

SWING MODE will not activate unless SWING is activated.
   - If no mode changes within 4 seconds, unit will operate According to the selected SWING MODE.

4. Quiet Fan Speed
   - Press the QUIET key once to activate Quiet fan speed. QUIET symbol will be shown.
   - To disable Quiet fan speed and BACK to previous fan speed, press the QUIET key again.
   - If user presses the FAN button or TURBO button or turn off the unit, the quiet speed will be disabled. This speed is only valid during COOL mode for selected models.

5. Temperature Setting
   - Press the temperature button and set the temperature of your choice by pressing " ▲ " or " ▼ " button once, temperature changes by 1°C or 1°F. The default temperature setting range is from 16°C to 30°C (60°F to 86°F).
   - Pressing both keys simultaneously will toggle the temperature setting between ºC and ºF.
   - No temperature setting is allowed during FAN mode (No set temperature display). There is no room temperature display.

6. SLEEP Function
   - Press the SLEEP button to activate the sleep mode. SLEEP function is not available in DRY mode and FAN mode.

7. ON TIMER and OFF TIMER
   - The unit has 2-event timer, namely Timer 1 and Timer 2, each event has an ON TIMER and an OFF TIMER.
   - All timers are event-triggered timers and can be overridden by the ON/OFF button and Override function.

Set Event 1 and Event 2 Timers

- Process for Timer ON and Timer OFF is the same.
- Press and hold Timer ON/OFF key for 3 seconds to go into timer setting mode. (Icon ON 1 or OFF 1 will blink)
- Press UP or DOWN to select Timer 1 or Timer 2 to set. ('1' blinking indicate that Timer 1 is currently selected, '2' blinking indicate that Timer 2 is currently selected)
- Press Timer ON/OFF key again to confirm. (Day will blink next)
- Press UP or DOWN to select the day.
- Press Timer ON/OFF key again to confirm the day. (Hour will blink next)
- Press UP or DOWN to change the hour.
- Press Timer ON/OFF key again to confirm the hour. (Minute will blink next)
- Press UP or DOWN to change the minute.
- Press Timer ON/OFF key again to confirm the minute.
- Each timer (Timer 1 ON or Timer 1 OFF or Timer 2 ON or Timer 2 OFF) will only be set separately, if there is no key operation for 5 seconds during setting the timer, it will automatically exits from setting mode and no changes will be made.
- ON/OFF timer will be checked every 1 minute. It is not advisable to set ON TIMER and OFF TIMER to have same values. Shall these occur, the effective timer will be treated with priority as stated in Table below:

Table: Timer Priority

Priority	**Timer**
1 (Highest)	ONTMR2
2	OFFTMR2
3	ONTMR1
4 (Lowest)	OFFTMR1

- Upon IR reception, IR wireless remote controller will override ON TIMER 2 and OFF TIMER 2 settings.

Example:
ON TMR 2 setting : DAY TUE, TIMER 5.00pm
OFF TMR 1 setting: DAY TUE, TIMER 5.00pm
Outcome when RTC reaches 5.00pm on TUE:

- **when unit is on, no respond.**
- **when unit is off, unit will turn on.**

8. DELAY TIMER Function

- Press the DELAY TIMER key once will activate the delay timer function for 1 hour. An indicator "OVERRIDE" will show on the LCD.
- Press the same key again will increase the setting to 2 hours. An indicator "OVERRIDE" will be shown. Subsequent press will deactivate the delay timer function.
- After the delay timer is completed, the delay timer function is deactivated and the logo is OFF. All other timers will be resumed.

9. FAN Speed

- Fan speed can be changed via pressing the FAN key:
  Low > Med > High > Auto >
- FAN speed is not available in DRY mode.

10. ON/OFF Button

11. Real-time Clock Display

- RTC is shown on screen during the unit ON or OFF except for power failure or error code.

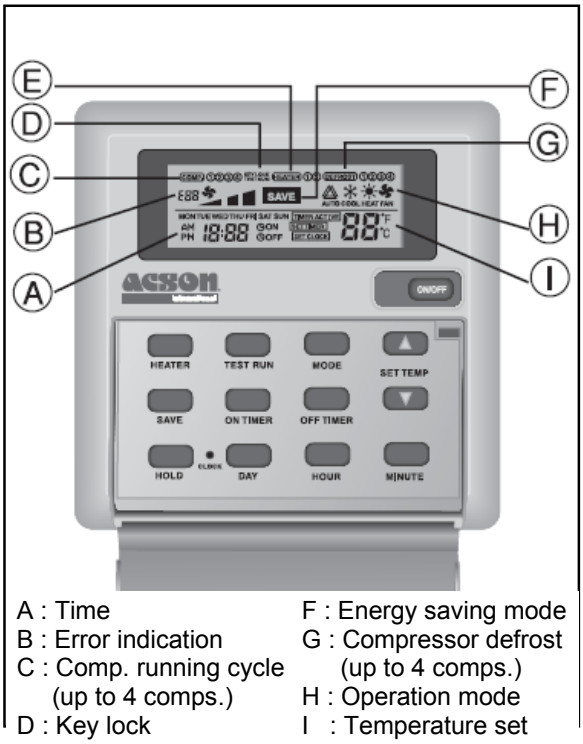
Set RTC Setting

- Press RTC key one time will activate RTC setting mode. (Day will blink)
- Press UP or DOWN to select the day.
- Press RTC again to confirm the day. (Hour will blink next)
- Press UP or DOWN to change the hour.
- Press RTC again to confirm the hour. (Minute will blink next)
- Press UP or DOWN to change the minute.
- Press RTC again to confirm the minute.
- RTC will only be set after all 7 steps, if there is no key operation for 5 seconds during setting the RTC, it will automatically exits from setting mode and no changes will be made.

12. Key Lock

- Press and hold both TURBO and QUIET keys for 5 seconds will activate/deactivate the key lock function; "KEYLOCK" will be shown/disappear on LCD. Upon all the keys are locked, only ON/OFF, TURBO and QUIET (to unlock) can be pressed.

4.8 Sequential Controller



A : Time
B : Error indication
C : Comp. running cycle (up to 4 comps.)
D : Key lock
E : Heater (up to 2 heaters)
F : Energy saving mode
G : Compressor defrost (up to 4 comps.)
H : Operation mode
I : Temperature set

1. "ON/OFF" Switch
   - *Caution:* In the case when the ***ON/OFF*** key is pressed immediately after the operation is stopped, the unit will not restart until 3 minutes later to protect the compressor.

2. Selecting Operating Mode
   - Press the ***MODE*** key to select the type of operating mode. Consecutive press of the key switches the operation over "*COOL*", "*HEAT*", "*AUTO*" and "*FAN*"

3. SAVE Mode
   - Press the ***SAVE*** key to select the energy saving function. This option is only available for "*COOL*", "*HEAT*" and "*AUTO*" modes.

4. Auxiliary Electric Heater
   - If the "*HEAT*" mode provides insufficient heating to a room even at the highest temperature setting (30°C), press the **HEATER** key to activate the auxiliary electric heater. For models with two heaters, consecutive press of the key allows the selection of one or both heaters active.

5. Temperature Setting
   - To set the desired room temperature, press ▲ or ▼ to increase or decrease the set temperature in the range of 16°C to 30°C.
   - Press both ▲ and ▼ simultaneously to toggle between °C and °F setting.

6. Time Setting

   Real time clock
   - Press the ***CLOCK*** key once to activate set clock mode.
   - Press again to disable set clock mode.
   - Under set clock mode, the time of the present day can be set by pressing the respective ***MINUTE***, ***HOUR*** and ***DAY*** key.

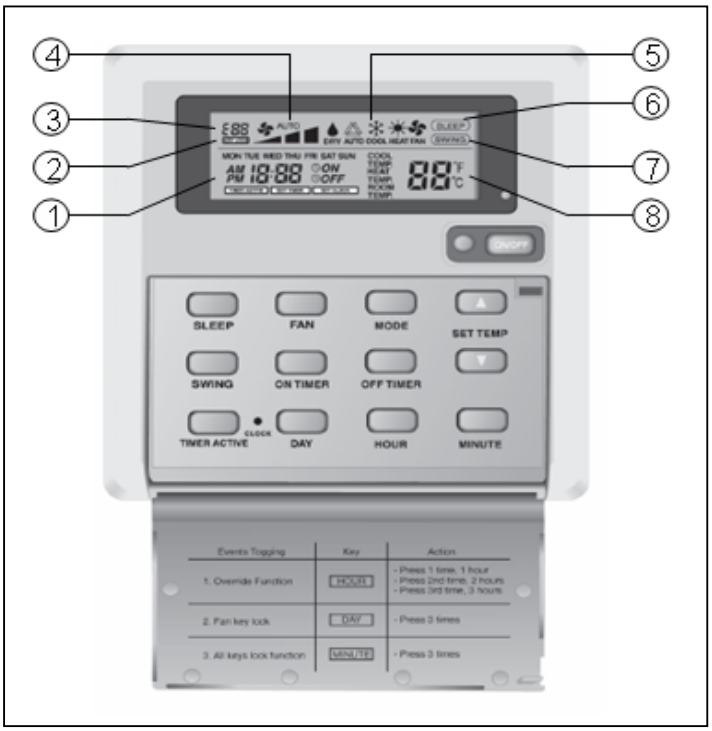
   7 days timer
   - Press the ***ON TIMER*** key to activate auto ON timer mode. Under this mode, press the respective ***MINUTE***, ***HOUR*** and ***DAY*** key to select the time of the week when the air-conditioning unit is to automatically start running. Press ***ON TIMER*** key again to save the setting.
   - Press the ***OFF TIMER*** key to activate auto OFF timer mode. Under this mode, press the respective ***MINUTE***, ***HOUR*** and ***DAY*** key to select the time of the week when the air-conditioning unit is to automatically stop running. Press the ***ON TIMER*** key again to save the setting.
   - Then to activate the 7 days timer, press the ***HOLD*** key until the word "TIMER ACTIVE" appears on the LCD screen. Repeat the same step to disable the 7 days timer.

7. Other Function

   Key Lock
   - Press the ***MINUTE*** key 3 times consecutively to activate the key lock. A "KEY LOCK" symbol will appear on the LCD screen. At this point, only the ON/OFF key is valid.
   - To disable the key lock, again press the MINUTE key 3 times consecutively.

   Test Run
   - Press the ***TEST RUN*** key 2 times consecutively to test run the unit.

4.9 Netware 3 / Netware 3C



1. Time display
2. Key lock display
3. Error indication
4. Fan speed display
5. Operation mode display
6. Sleep mode display
7. Air swing display
8. Temperature set display

Jumper 20 - 30	Application
SET	Set temp range : 20°C ~ 30°C
OFF	Set temp range : 16°C ~ 30°C

Differences between Netware 3 & Netware 3C:

	Netware 3	Netware 3C
Compatibility	Non-inverter / X-inverter Series	Y-inverter Series
Casing Color	Dark Silver	White
Retrieve Last State Error	No	Yes
Pump Down	No	Yes
Applicable model	All except A(5)WM-J/JR For MCK-E, only applicable with nomenclature ACOBB	All except M5WMY-J/JR
NIM/G-WAY	Yes For MCK-E, only applicable with nomenclature ACOBB	No

Operating Guide

1. "ON/OFF" Switch
   - *Caution:* In the case when the ***ON/OFF*** key is pressed immediately after the operation is stopped, the unit will not restart until 3 minutes later to protect the compressor.

2. Selecting Operating Mode
   - Press the ***MODE*** key to select the type of operating mode. Consecutive press of the key switches the
   - operation over "*COOL*", "*HEAT*", "*AUTO*", "*DRY*" and "*FAN*"

3. Fan Speed Selection
   - Press the ***FAN*** key until the desired fan speed is achieved.

4. Sleep Mode Setting
   - Press the ***SLEEP*** key to activate sleep mode. Available under *COOL*, *HEAT* & *AUTO* mode.
   - When it is activated in *COOL* mode, the set temperature will be increased 0.5°C after 30mins, 1°C after 1 hour and 2°C after 2 hours.

- When it is activated in *HEAT* mode, the set temperature will be decreased 1°C after 30mins, 2°C after 1 hour and 3°C after 2 hours.

5. Temperature Setting
   - To set the desired room temperature, press ▲ or ▼ to increase or decrease the set temperature in the range of 16°C to 30°C.
   - Press both ▲ and ▼ simultaneously to toggle between °C and °F setting.

6. Air Swing
   - Press the ***SWING*** key to activate the automatic air swing function.

7. Time Setting

Real time clock

- Press the ***CLOCK*** key to activate set clock mode. Press again to disable set clock mode.
- Under set clock mode, the time of the present day can be set by pressing the respective ***MINUTE***, ***HOUR*** and ***DAY*** key.

7 days timer

- The unit has 3 event functions; each event has an ON TIMER and an OFF TIMER. Press the timer key (ON TIMER/OFF TIMER) will enable Event 1 timer setting mode. Press same key again will enable Event 2 timer setting mode. Press the 3rd times will enable the Event 3 (Event handset) timer setting mode. Subsequent key pressed the unit will quit from timer setting mode.

Set Event 1 and Event 2 Timers

- Under timer setting mode, “SET TIMER” will be shown on LCD and blink at 0.5 sec interval. For Event 1 Timer setting, ‘ON’ or ‘OFF’ indication will appear and digit “1” will be displayed on the top left corner of the LCD. ‘ON’ or ‘OFF’ indication and digit “2” will be displayed during Event 2 timer setting. The timer setting can be changed through pressing the DAY key, HOUR key or MINUTE key. If
  there is no further time related (DAY, HOUR and MINUTE) key is pressed, the unit will quit from the timer setting mode.

Set Event 3 Timer via remote control (Optional)

- This timer can be controlled separately through remote control as well as ON TIMER or OFF TIMER keys. Timer 3 can be set like timers 1 and 2 like above except the DAY setting is not provided as this timer setting is valid everyday. An indicator ‘3’ will display during the Event 3 timer setting mode. ‘ON’ or ‘OFF’ will blink at 0.5 sec interval during the timer setting. If there is no further time related (DAY, HOUR and MINUTE) key is pressed, the unit will quit from the timer setting mode.

Activating and canceling timers

- These timers will not trigger if the timer is not active. To activate the timers, press the ***TIMER ACTIVE*** key unit “TIMER ACTIVE” appears on LCD. This symbol is to indicate Event 1, Event 2 and/or Event 3 timers are active. Pressing the same steps will deactivate the timers and “TIMER ACTIVE” symbol will disappear.
- Another method to cancel the timers setting is changed all the hour setting of the timers to null, the LCD display --:--, then this respective timer will be disable.

8. Other Function

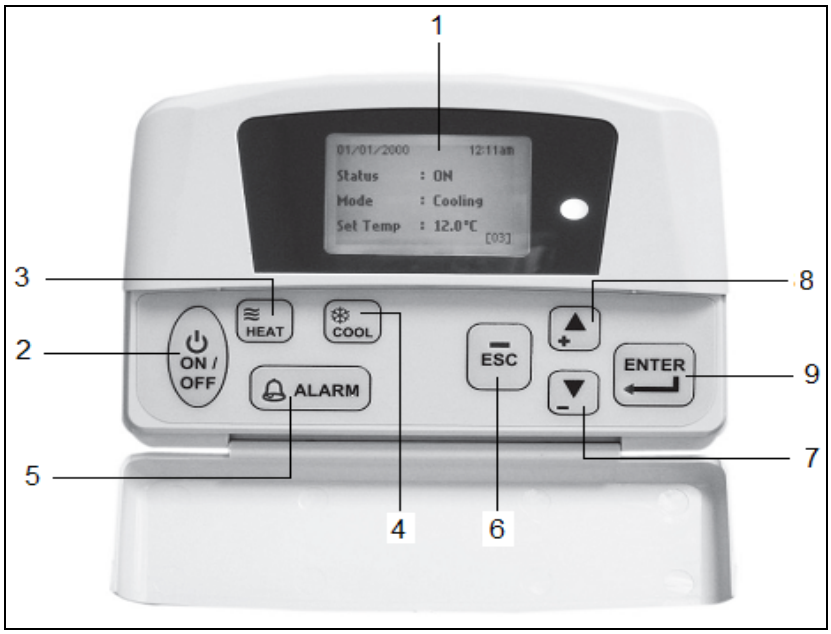
Key Lock

- Press the ***MINUTE*** key 3 times consecutively to activate the key lock. A “KEY LOCK” symbol will appear on the LCD screen. At this point, only the ON/OFF key is valid.
- To disable the key lock, again press the MINUTE key 3 times consecutively.

Fan Lock

- When the DAY key is press 3 times consecutively within 1.5 sec, the fan symbol will disappear and fan key will be inhibited. Press the DAY key 3 times to cancel the fan lock function.

4.10 Rooftop Panel



Operating Guide

1. LCD Display
   - Upon power up of the unit, the LCD displays the main display screen

2000/01/0	[SAT]	12:00am
Status	**:**	**OFF**
Mode	**:**	**Heating**
Set Temp	**:**	**24°C** ▼

2. "ON/OFF" Switch
   - Press the ON/OFF button for 1 second to switch on the unit if the status shows OFF. The status will change to ON. The ON/OFF LED will light up.

3. HEAT Button
   - Press the HEAT button for 1 second if heating is required.

4. COOL Button
   - Press the COOL button for 1 second if cooling is required.

5. ALARM Button
   - Press the ALARM button to view or clear the alarm history.
   - The panel can keep up to 20 faults/alarm warning records.

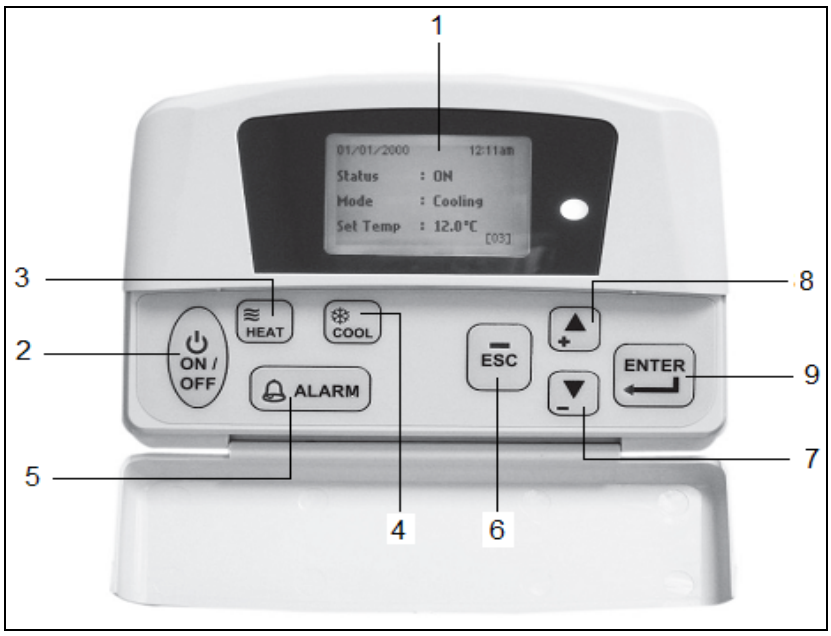
6. ECS Button

7. Downward Button
   - Press the button once to view the **Compressor(s) On, Off** or **Defrost Status**.
   - Press the button again to view the temperature for **Return Air** and **Outdoor Air**.
   - Press the button again to view the **Selected Type for Unit**, **Number of Compressor used**, **Indoor Fan Option**, **Model** and **EEPROM version**.

8. Upward Button
   - Press the button to return to previous screen(s)

9. ENTER Button
   - Press the button to enter [Main Menu].
   - There are 6 sub menus in [Main Menu]. **Operation Menu > Setting Menu > Timer Menu > Alarm Menu > Warning Menu > Display Menu**.
   - Press or to select sub menus, press **ENTER** to enter into the sub menu or press **ESC** to exit to main display screen.
   - Details please refer to Rooftop Panel Operation Manual.
   - Press to exit to previous Menu.

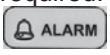
4.11 Chiller Panel



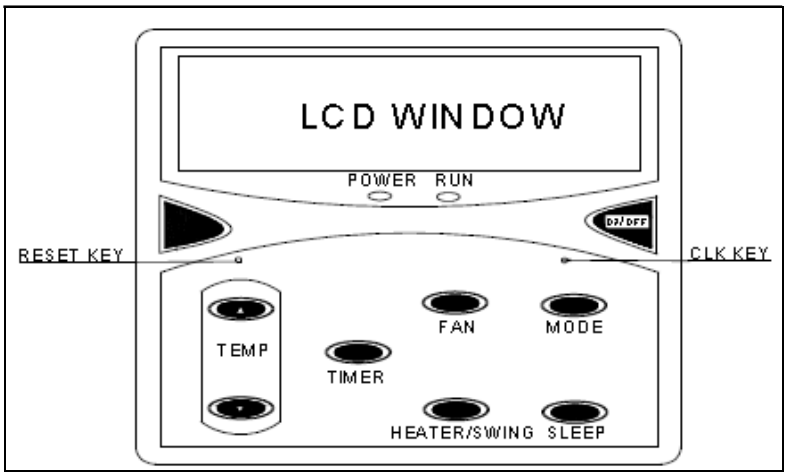
Operating Guide

1. LCD Display
   - Upon power up of the unit, the LCD displays the main display screen

01/01/2003	12:00am
Status	**: OFF**
Mode	**: Cooling**
Set Temp	**: 12°C**
	[00]

2. "ON/OFF" Switch
   - Press the ON/OFF button for 1 second to switch on the unit if the status shows OFF. The status will change to ON. The ON/OFF LED will light up.
   - The Set Temp refers to water in temperature and the factory setting is 12°C for cooling and 40°C for heating.
   - [00] refers to the factory setting for panel ID.
3. HEAT Button
   - Press the HEAT button for 1 second if heating is required.
4. COOL Button
   - Press the COOL button for 1 second if cooling is required.
5. ALARM Button 
   - Press the ALARM button to view or clear the alarm history.
   - The panel can keep up to 20 faults/alarm warning records.
6. ECS Button
   - Press to exit to previous Menu.
7. Downward Button
   - Press the button once to view the **Compressor(s) On or Off** status.
   - Press the button twice to view the temperature for **Water In, Water Out, Outdoor Air** and **Controller Panel**.
   - Press the button again to view the **Air Conditioning Model**, **Number of Compressor used** and **Unit Number**.
8. Upward Button
   - Press the button to return to previous screen(s)
9. ENTER Button
   - Press the button to enter [Main Menu].
   - There are 6 sub menus in [Main Menu]. **Operation Menu > Setting Menu > Timer Menu > Alarm Menu > Display Menu**.
   - Press or to select sub menus, press **ENTER** to enter into the sub menu or press **ESC** to exit to main display screen.
   - Details please refer to Chiller Panel Operation Manual.

4.12 MC301



Operating Guide

1. ON/OFF Operation
   - Press “ON/OFF” key, the unit will be ON or OFF, and “ON” or “OFF” will display on the LCD.

2. Temperature Setting
   - Use “▲” or “▼” keyboard to increase or decrease by 1 °C/°F, temperature range is 16-30 °C (61-86°F).
   - Press “FAN” for 5s to alter between °C and °F.

3. Fan Speed Setting
   - Press “FAN” key to adjust fan speed follows by: High→Auto→Low→Medium→High.
   - When the mode is “Fan”, there is no “Auto” speed. Single-speed fan motor has no this function.

4. Mode Setting
   - Press the “MODE” button, the current mode is twinkling. Press again to change mode as follows:
     When the outdoor unit is OFF:
     - Heat pump:
       COOL→HEAT→FAN→DRY
     - Cooling only:
       COOL→FAN→DRY

     When the outdoor unit is Cooling:
     COOL→FAN→DRY
     When the outdoor unit is Heating:
     HEAT→FAN

5. Swing Setting
   - Press “HEATER/SWING” key to active swing function (Only for swing unit). “SWING” will display on LCD.

6. Auxiliary Heater Setting
   - Under “HEAT” or “FAN” mode, press “HEATER/SWING” key to active heater. (Only for heater unit). “HEATER” will display on LCD.

7. Sleep Setting
   - Press “SLEEP” key, “SLEEP” will display on LCD, which means this function is active.

8. Keyboard Lock
   - Press “SLEEP” for 5s, the keyboard will be changed between locked and unlocked.
   - When it is locked, the lock icon will be shown on the LCD. During the locked stage, only the ON/OFF key is valid.

9. Real Time Clock Setting
   - Press “CLK” to enter, firstly is “week setting”; press “▲” or “▼” to change from Sunday to Saturday. If there is no any press for 5s on any key, it will exit to the displaying status.
   - Press “CLK” again is the “CLOCK SET” icon will display and the current real time clock is twinkling. At this time, press “▲” to increase the hour, press “▼” to increase minutes , if there is not any press for 5s, it will exit without saving the changed real time. If you want to confirm the new setting, you need to press “CLK” once again within 5s.
   - During the setting process, only “▲”, “▼” and “CLK” are valid. If other key is press, it will exit to the normal status.

10. Reset
    - This key is used to reset the unit.

11. Timer Setting
    - Week timer setting: Include total 28 on/off timers, 7 days every week and 4 timers every day.
    - Single timer setting: It is active only on the same day that timer set when power on. It is inactive when timer is set at AM 00:00. It can be set at AM 00:00 if you want to cancel some timer setting.
    - Press “FAN” and “MODE” at one time, all timers setting can be cancelled.
    - Timer display: The current timer setting will display every 2s.
    - The third bit of the K1(micro-switch) of PCB board must be set ON if PCB has clock chip and battery, otherwise the real time clock will not be activated once power is shut off.

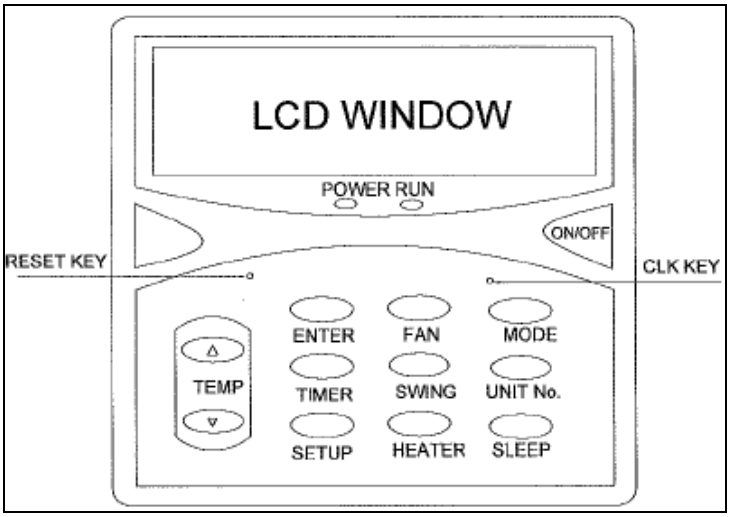
    A) Week Timer Setting

    - Press “TIMER” , “WEEK SET” and “TIMER SET” will display on the left and bottom of LCD panel, press “▲” or “▼” to select a day (Sunday to Saturday), press “TIMER” again, the day is selected, the timer’s states of the selected day will display on LCD Panel.
    - Enter first timer setting, the timer ON or OFF icon will display on the left and bottom of LCD panel, the timer sequence number “1” will display on the top of LCD, press “▲”or “▼” to select timer sequence number, press “TIMER”, the timer sequence number is selected.
    - Enter timer ON and timer OFF setting, press “▲” or “▼” to select timer ON or timer OFF, “TIMER ON” or “TIMER OFF” is twinkling, Press “TIMER”, timer ON or timer OFF is selected.
    - Enter timer setting, “TIMER SET” and “CLOCK SET” will display on the left and bottom of LCD panel, press “▲” to set hour and press “▼” to set minute, press “TIMER” again to finish setting and enter next timer setting, repeat above procedures to finish others timer setting.

    B) Single Timer Setting

    - Press “TIMER” key for 5s, enter single timer setting (When the unit is ON, it can only be set to OFF; When the unit is OFF, it can only be set to ON), the “TIMER SET” will display on LCD panel, press “▲” to set hour and press “▼”to set minute, press “TIMER” to finish the single timer setting.
    - Exit timer setting: If there is no press on any key within 5s or press any key except “▲”, “▼”, “TIMER” and “ON/OFF” key, it will exit the timer setting.

4.13 MC303



Operating Guide

1. Address Register
   - After communication wire is completely connected, press "SETUP" key for 5s. Address will be automatically registered and a number from 60 to 0 will be shown on the display LCD.

2. View Actual Address
   - Press "MODE" key for 5s then press "▲" or "▼" to view all the units.
   - Actual address has four figures; first two where show on minute previously are for outdoor unit, last two where show error previously at the right bottom corner are for indoor unit.

3. Single/Group Unit Setting
   - Press "UNIT No." key to enter the unit setting, then press "▲" or "▼" to choose the unit number to be set and press "ENTER" to confirm choosing.
   - When LCD panel show "_ _", press "ENTER" to confirm enter group setting.

4. ON/OFF Operation
   - Press "ON/OFF" key to RUN or STOP the unit operation.
   - For Group On/Off, press "ON/OFF" key for 5s and the unit number is twinkling, "[ ]" is displayed on LCD panel. Then press "ON/OFF" key to turn on/off all units.

5. Mode Setting
   - Press the "MODE" button, the current mode is twinkling. Press again to change mode as follows:
     When the outdoor unit is OFF:
     - Heat pump:
       COOL→HEAT→FAN→DRY
     - Cooling only:
       COOL→FAN→DRY

     When the outdoor unit is Cooling:
     COOL→FAN→DRY
     When the outdoor unit is Heating:
     HEAT→FAN

6. Temperature Setting
   - Use "▲" or "▼" keyboard to increase or decrease by 1 °C/°F, temperature range is 16-30 °C (61-86°F).
   - Press "FAN" for 5s to alter between °C and °F.

7. Fan Speed Setting
   - Press "FAN" key to adjust fan speed follows by:
     High→Auto→Low→Medium→High
   - When the mode is "Fan", there is no "Auto" speed. Single-speed fan motor has no this function.

8. Swing Setting
   - Press "SWING" key to active swing function. "SWING" will display on LCD.

9. Sleep Setting
   - Press "SLEEP" key, "SLEEP" will display on LCD, which means this function is active.

10. Indoor unit lock/unlock
    - Press “UNIT No.” key to enter the unit setting, then press “▲” or “▼” to choose the unit number to be set or choose “_ _” for group setting and press “ENTER” to confirm. After that, press “SLEEP” key 5s to lock the chosen unit, the symbol “” will display on LCD panel, any operation by LCD panel or remote controller is invalid.
    - To unlock the unit, press “SLEEP” key 5s, the symbol “” will disappear.

11. Real Time Clock Setting
    - Press “CLK” to enter, firstly is “week setting”; press “▲” or “▼” to change from Sunday to Saturday. If there is no any press for 5s on any key, it will exit to the displaying status.
    - Press “CLK” again is the “CLOCK SET” icon will display and the current real time clock is twinkling. At this time, press “▲” to increase the hour, press “ ▼ ” to increase minutes , if there is not any press for 5s, it will exit without saving the changed real time. If you want to confirm the new setting, you need to press “CLK” once again within 5s.
    - During the setting process, only “▲”, “▼” and “CLK” are valid. If other key is press, it will exit to the normal status.

12. Timer Setting

    A) Single Timer Setting
    - Single timer setting: It is active only on the same day that timer set when power on. It is inactive when timer is set at AM 00:00. It can be set at AM 00:00 if you want to cancel some timer setting.
    - Press “TIMER” key for 5s, enter single timer setting (When the unit is ON, it can only be set to TIMER OFF; When the unit is OFF, it can only be set to TIMER ON), the “TIMER SET” will display on LCD panel, press “▲” to set hour and press “▼”to set minute, press “TIMER” to finish the single timer setting.

    B) Week Timer Setting
    - Week timer setting: Include total 28 on/off timers, 7 days every week and 4 timers every day.
    - Press “TIMER” , “WEEK SET” and “TIMER SET” will display on the left and bottom of LCD panel, press “▲” or “▼” to select a day (Sunday to Saturday), press “TIMER” again, the day is selected, the timer’s states of the selected day will display on LCD Panel.
    - Enter first timer setting, the timer ON or OFF icon will display on the left and bottom of LCD panel, the timer sequence number “1” will display on the top of LCD, press “▲”or “▼” to select timer sequence number, press “TIMER”, the timer sequence number is selected.
    - Enter timer ON and timer OFF setting, press “▲” or “▼” to select timer ON or timer OFF, “TIMER ON” or “TIMER OFF” is twinkling, Press “TIMER”, timer ON or timer OFF is selected.
    - Enter timer setting, “TIMER SET” and “CLOCK SET” will display on the left and bottom of LCD panel, press “▲” to set hour and press “▼” to set minute, press “TIMER” again to finish setting and enter next timer setting, repeat above procedures to finish others timer setting.
    - Press “SWING” for 5s, all week timer setting in EEPROM will be deleted.
    - Exit timer setting: If there is no press on any key within 5s or press any key except “▲”, “▼”, “TIMER” and “ON/OFF” key, it will exit the timer setting.

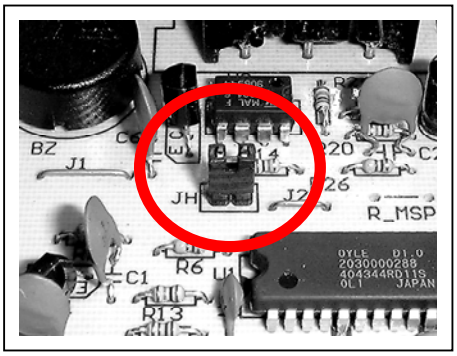
13. Lock/unlock LCD Panel
    - Press “HEATER” and “SLEEP” key for 5s, the symbol “” will twinkles on LCD panel, MC303 is locked. Any key of MC303 is invalid until “HEATER” and “SLEEP” key is pressed for 5s again.
    - While LCD panel is locked, MC303 still checks and displays each indoor’s unit status.

5.0 CONTROLLER SETTING

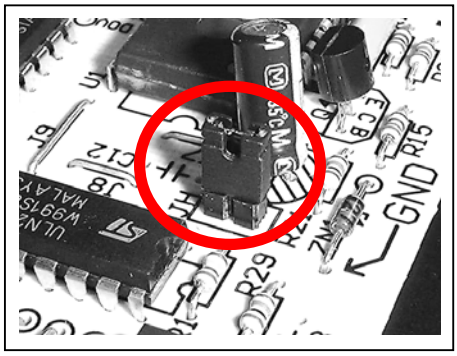
5.1 Auto Random Restart

- Shorted at JH/JP1/J_LST jumper at main board for auto restart (supplied).
- Remove the jumper to have non-auto restart.

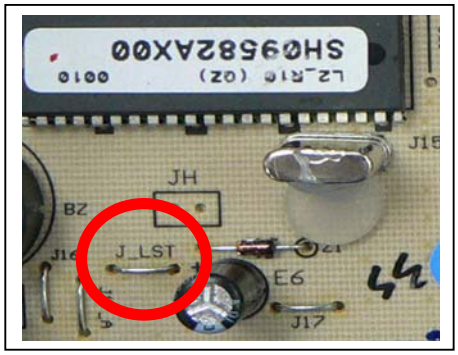
D2.0



U1.5 / SQ2.0



L2.2 / L208A / LWS / W2 / J2*



* Available on J2 PCB version T4 and above

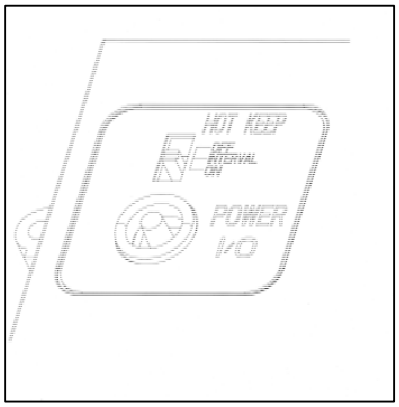
5.2 Hot Keep Selection

Three selections available:

a. Fan stop if indoor coil temperature < 30°C (OFF).
b. Fan runs at low speed if indoor coil temperature < 30°C and stop if indoor coil temperature < 18°C (ON).
c. Cycle of low fan running for 30s and fan off for 120s and repeat (INTERVAL).

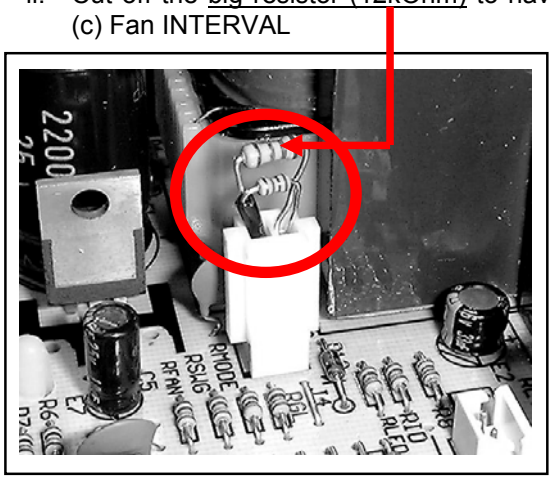
WM – F/FR (U1.5 & L2EF)

3 selections available at the slide switch on the On/Off Switch Board; Preset at OFF.



Other models (U1.5)
At CN3 location on the PCB,

i. Remove the connector to have (b) Fan ON and
ii. Cut off the big resistor (12kOhm) to have (c) Fan INTERVAL



Non-ducted Model – standard setting is (a) Fan OFF

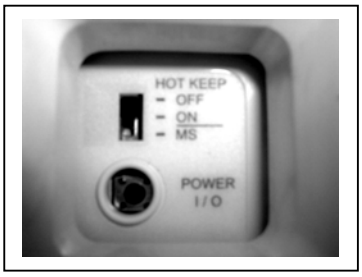
Ducted Model – standard setting is (c) Fan INTERVAL

L2 Models

Two selections are available:

a. Fan ON:
- If the indoor coil temperature > 40°C, the indoor fan will run at speed.
- If the indoor coil temperature crosses 37°C, the indoor fan will run at low speed.
- If the indoor coil temperature <18°C, the indoor fan will stop.

b. Fan OFF
- If the indoor coil temperature >40°C, the indoor fan will run at set speed.
- If the indoor coil temperature crosses 37°C, the indoor fan will run at low speed.
- If indoor coil temperature <30°C, the indoor fan will stop.



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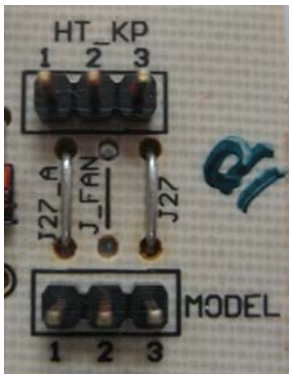
L208A / LWS2.0 models

There are 2 tables setting for HT_KP & MODEL jumpers as shown as below.

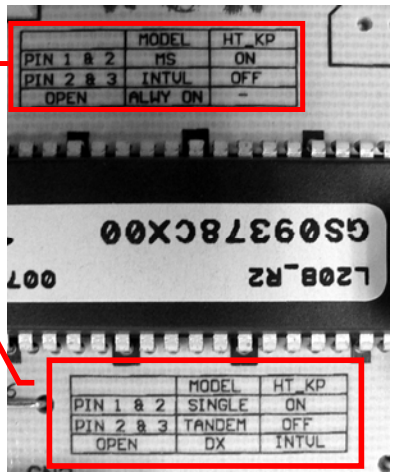


For L208A jumper setting

	MODEL	HT_KP
Pin 1&2	MS	ON
Pin 2&3	INTVL	OFF
Open	ALWY ON	-

For LWS2.0 jumper setting

	MODEL	HT_KP
Pin 1&2	Single	ON
Pin 2&3	Tandem	OFF
Open	DX	INTVL



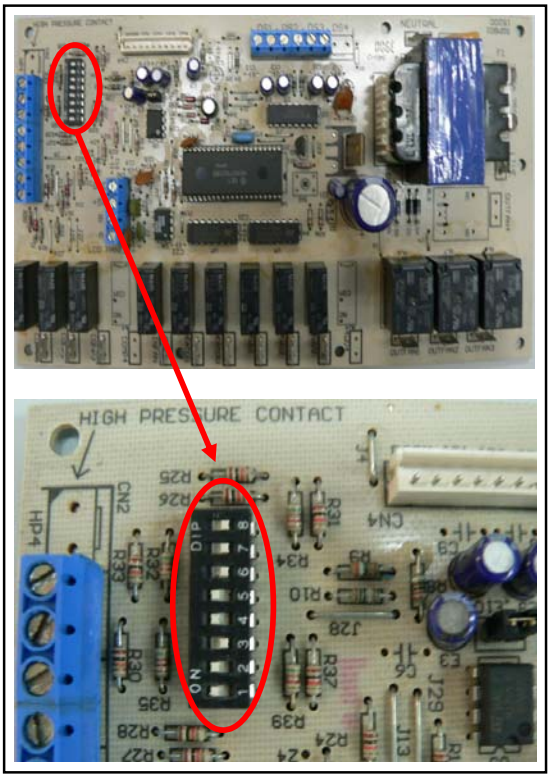
Software	Type	Jumper	Hotkeep Selection				
			Fan On	Fan Off	Interval	Always On	Multisplit
LWS2.0	Tandem WSHP	MODEL	Pin 2 & 3	Pin 2 & 3	Pin 2 & 3	X	X
		HT_KP	Pin 1 & 2	Pin 2 & 3	Open	X	X
	Single WSHP	MODEL	Pin 1 & 2	Pin 1 & 2	Pin 1 & 2	X	X
		HT_KP	Pin 1 & 2	Pin 2 & 3	Open	X	X
	DX	MODEL	Open	Open	Open	X	X
		HT_KP	Pin 1 & 2	Pin 2 & 3	Open	X	X
L208A	DX	MODEL	Open	Open	Pin 2 & 3	Open	Pin 1 & 2
		HT_KP	Pin 1 & 2	Pin 2 & 3	Open	Open	Open

For example, WSHP single compressor with Fan ON for hot keep selection:

Place the shunt jumpers on HT_KP (Pin 1 & 2) & MODEL (Pin 1& 2).

5.3 Sequential Board (SQ2.0)

Dip switch setting of sequential controller are as the following:



Main Board SQ2.0

1. Models Selection

Model	Dip switch 1	Dip switch 2
a. No heater	Off	Off
b. 1 heater	On	Off
c. 2 heater	On/Off	On

Where n = no. of compressor(s)
Postfix no. = no. of heater(s)

2. Stage Differential Temperature

Differential temperature is the temperature difference between turning on or off a compressor to another compressor in thermostat cycle.

The stage differential temperature can be selected from the range shown below:

	Dip switch 3	Dip switch 4
a. Default	Off	Off
b. 0.5°C	On	Off
c. 1.0°C	Off	On
d. 1.5°C	On	On

Note: 1.5°C only valid for 2 and 3 compressors model. For 4 compressors model, maximum allowed is 1.0°C.

The default differential temperature is base on number of compressor model, the setting is as below:

Model	Diff. Temperature
1 compressor	Not. Applicable
2 compressors	1.5°C
3 compressors	1.0°C
4 compressors	0.5°C

3. Operating Modes

The system has 4 operating modes to select with respect to each model selection:

Model	Auto	Cool	Heat	Fan	Dip switch 5
SQCn	-	X	-	X	Off
SQHnh	-	X	X	X	Off
SQHnh	X	X	X	X	On

Where x denotes modes available
n = no. of compressor(s)
h = no. of heater(s)

4. Hot Keep Option

	Dip switch 6
a. Fan off	Off
b. Fan on	On

5. Last Memory Functions

The power up settings for either with or without the last memory Backup is based on the J_LST setting.

	J_LST Setting
a. Last memory Backup	J_LST Plugged
b. W/o last memory Backup	J_LST Removed

*For SQ1.0, the jumper is JH1.

6. Defrost Option

Select whether compressor will turn off or remain on when 4WV changes at beginning of defrost cycle.

	Dip switch 8
a. Compressor off	Off
b. Compressor on	On (C2.4 spec)

7. Summary of Models available

SQCn Cooling Only model
SQHnh Heatpump model

n = number of compressors: 2, 3, 4
h = number of heaters: 0, 1, 2

Factory preset (default setting)

Model	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**
SQCn	Off	Off	Off	Off	Off	Off	Off	Off
SQHnh	On	On	Off	Off	On	On	Off	On

8. Sequential Control

Cool Mode: The starting sequence for indoor fan, outdoor fan and compressors is shown as below:

Start $\xrightarrow{2s}$ Indoor

$\xrightarrow{15s}$ Outdoor fan 1 $\xrightarrow{2s}$ Compressor 1*

$\xrightarrow{15s}$ Outdoor fan 2 $\xrightarrow{2s}$ Compressor 2*

$\xrightarrow{15s}$ Outdoor fan 3 $\xrightarrow{2s}$ Compressor 3*

$\xrightarrow{15s}$ Outdoor fan 4 $\xrightarrow{2s}$ Compressor 4*

Heat Mode: The starting sequence for indoor fan, outdoor fan and compressors is shown as below:

Start $\xrightarrow{2s}$ Indoor $\xrightarrow{2s}$ All 4-way valves

$\xrightarrow{15s}$ Outdoor fan 1 $\xrightarrow{2s}$ Compressor 1*

$\xrightarrow{15s}$ Outdoor fan 2 $\xrightarrow{2s}$ Compressor 2*

$\xrightarrow{15s}$ Outdoor fan 3 $\xrightarrow{2s}$ Compressor 3*

$\xrightarrow{15s}$ Outdoor fan 4 $\xrightarrow{2s}$ Compressor 4*

*If available and applicable. The compressors will be turned on one by one depending on the on/off conditions shown in the above.

5.4 Chilled Water Fan Coil Unit (W1V3)

The standard W1V3 board comes with a VALVE jumper. The system can be configured as the jumper selection listed below:

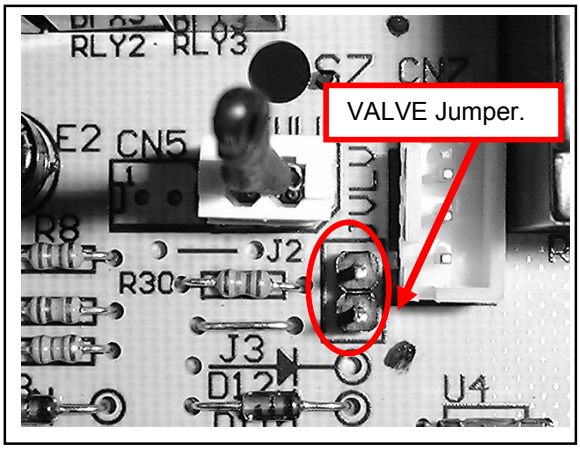
Mode	Application	VALVE jumper	HEAT jumper
Heatpump	Valve	√	√
	Valve less	X	√
Cooling Only	Valve	√	X
	Valve less	X	X

√ : Jumper Remained X : Jumper Removed

VALVE & HEAT Jumper Location

Model: WM 05-25FW

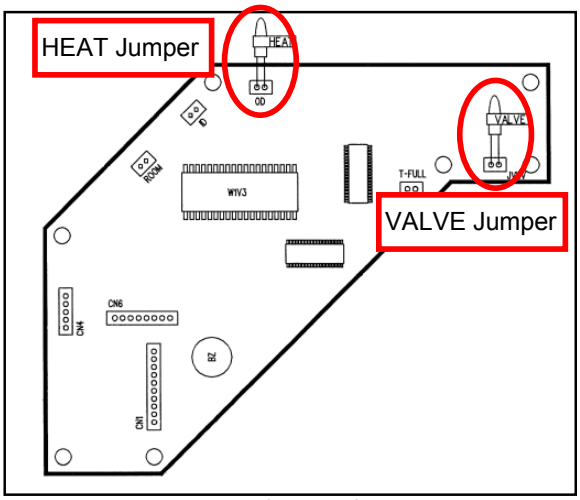
1. VALVE jumper is plugged into JVLV connector on the emergency switchboard.
2. HEAT jumper is plugged into JMODE connector on the emergency switchboard.



Switch Board W1V3

Model: MCK 20-50AW, MCK 15-25BW, MCK 10-20CW, MCM 20-50DW and MCC 10-60CW

1. VALVE jumper is plugged into JVLV connector on the main board.
2. HEAT jumper is plugged into the OD connector on the main board.

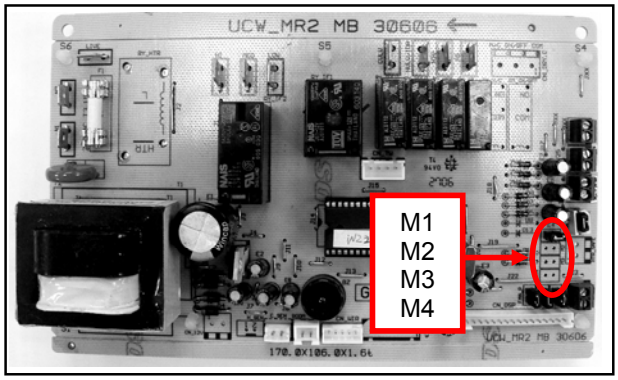


Main Board W1V3

5.5 Chilled Water Fan Coil Unit (W2.0)

The system operating modes can be configured via the following jumpers. For each jumper selected, the permissible operating modes are as follows:

Jumper	Configuration	Operating Modes
M1	2 Pipes without Aux. Heater	Heat>Cool>Dry>Fan
M2	2 Pipes with Aux. Heater	Heat>Cool>Dry>Fan
M3	4 Pipes + Boiler	Heat>Cool>Dry>Auto >Fan
M4	4 Pipes + Boiler	Heat>Cool>Dry>Fan



W2 Main Board

The standard W2 board comes with a VALVE jumper. The system can be configured as the jumper selection listed below:

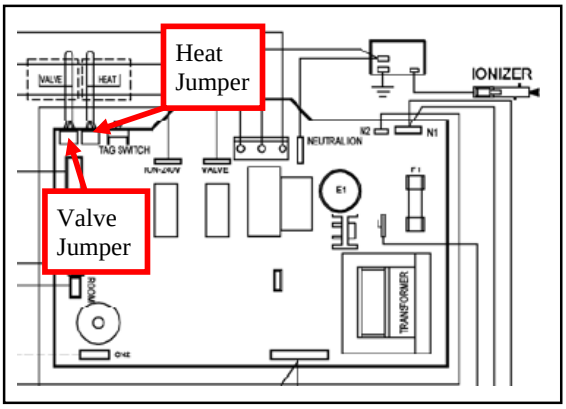
Mode	Application	VALVE jumper	HEAT jumper
Heatpump	Valve	√	√
	Valve less	X	√
Cooling Only	Valve	√	X
	Valve less	X	X

√ : Jumper Remained X : Jumper Removed

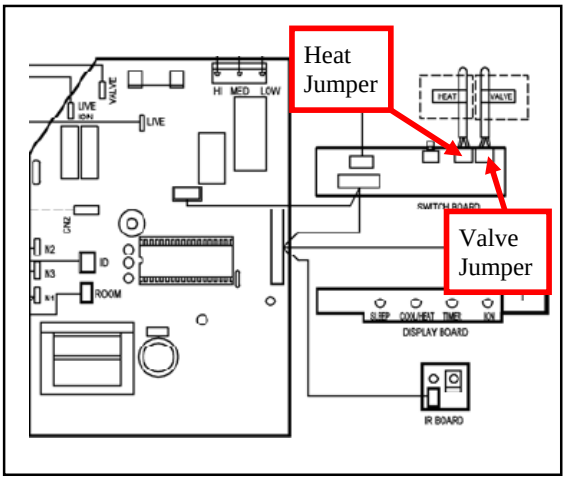
VALVE & HEAT Jumper Location

Model: MWM - G2W / 301W

1. VALVE jumper is plugged into JVLV connector on the emergency switchboard.
2. HEAT jumper is plugged into JMODE connector on the emergency switchboard.



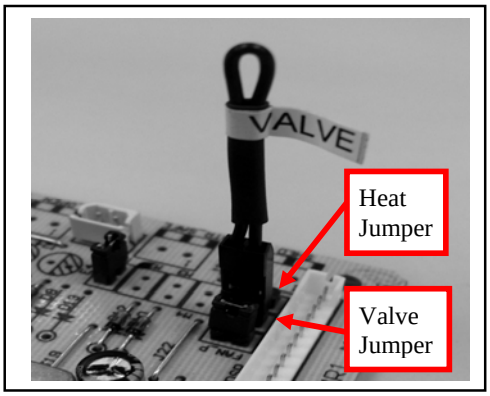
MWM 07/10/15G2W



MWM 20/25G2W / 301W

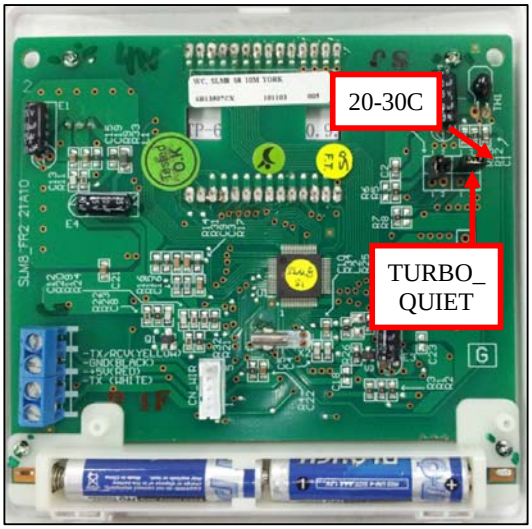
Model: CK - AW/MWH/CW, CE - DW/CBW/EW and CC - CW

1. VALVE jumper is plugged into JVLV connector on the main board.
2. HEAT jumper is plugged into the OD connector on the main board.



5.6 Hardware Setting – SLM8

There are 2 jumpers on SLM8 option to control the board function as shown in Picture below.



Summary of Hardware Setting as table below:

Jumper	Short	Open
20-30C (Set Temp Range)	20°C – 30°C	16°C – 30°C (Default)
TURBO_ QUIET*	Disable turbo & quiet fan speed (Default)	Enable turbo & quiet fan speed

* Only applicable to model with built in Turbo or Quiet features.

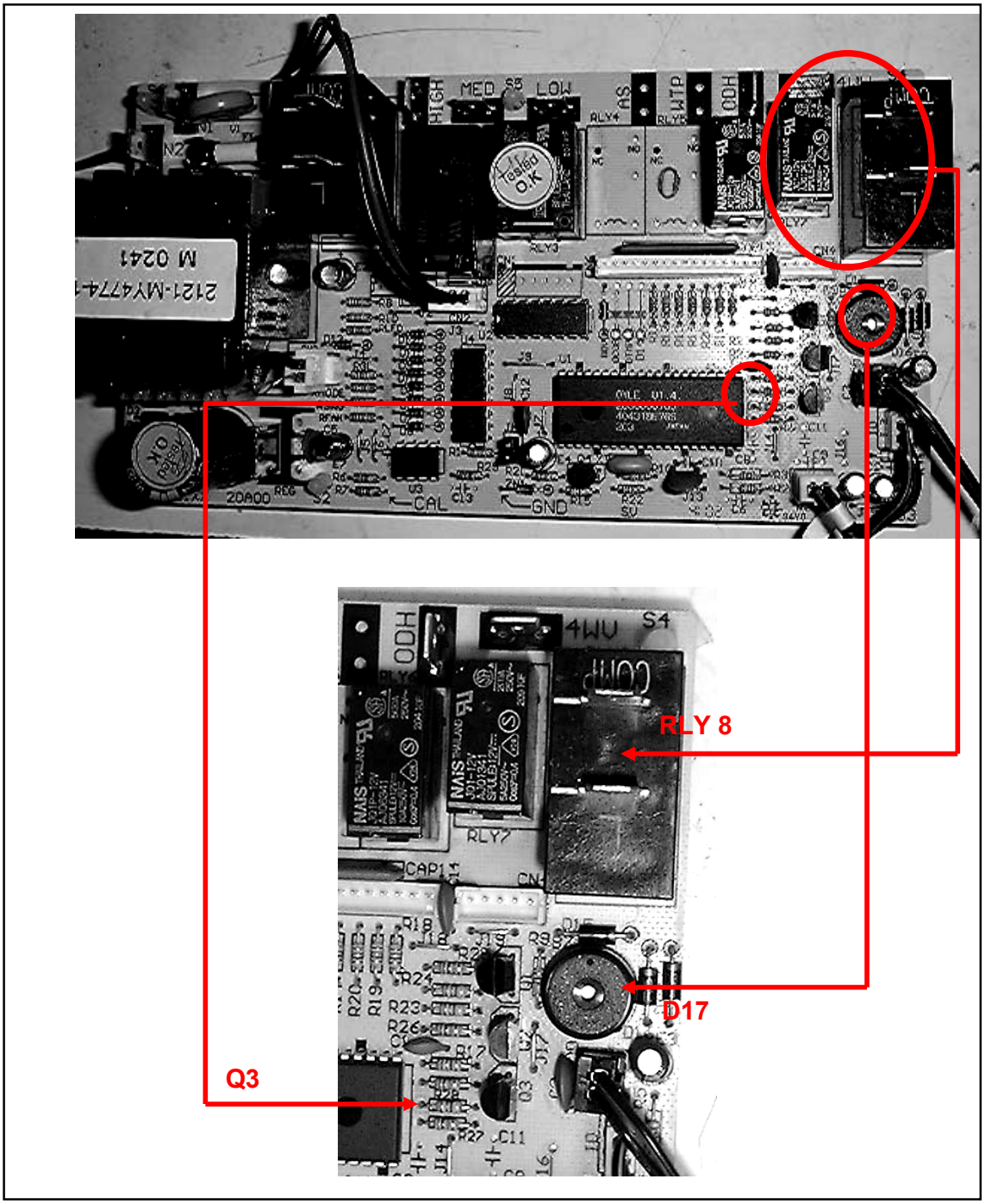
6.0 CONVERSION CONFIGURATION

6.1 Auxiliary Heater Conversion

U1.5 Heatpump with Auxiliary Heater

To convert the standard U1.5 heatpump PCB to auxiliary heater application, the following components need to be added onto the PCB:

1. Heater relay (240V/20A)
2. Transistor, 2SC945
3. Diode, IN4003

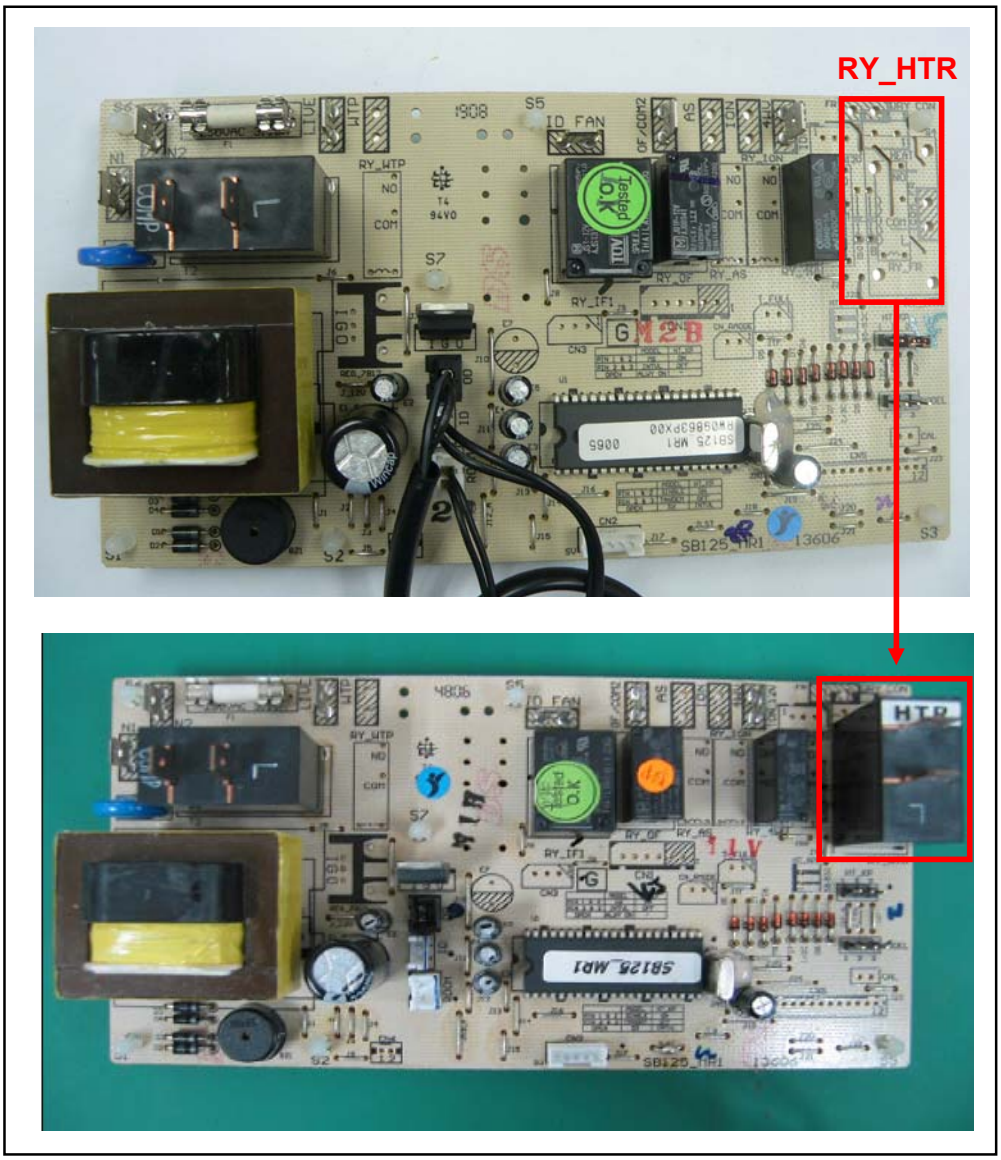


Board U1.5 Heatpump with Auxiliary Heater

SB125 Heatpump with Auxiliary Heater

To convert SB125 heatpump PCB to auxiliary heater application, only need to add one heater relay as shown below:

1. Place the JM Relay (240V/20A) on the RY_HTR location
2. Solder all the relay pins.



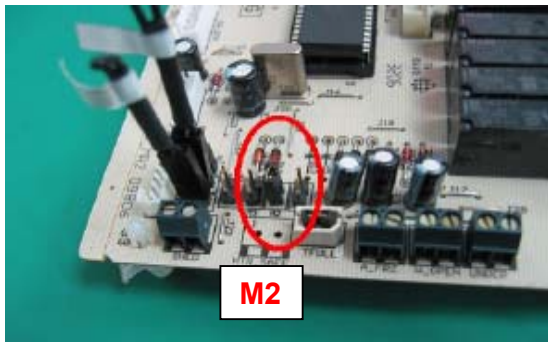
SB125 Heatpump with Auxiliary Heater

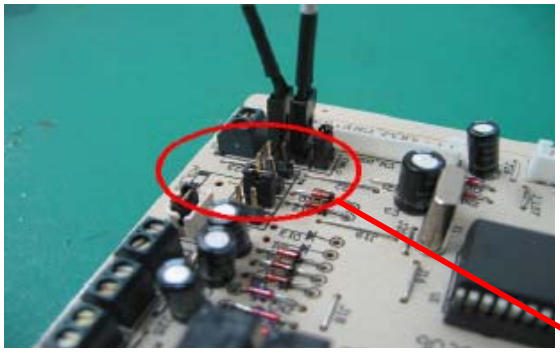
W2 Heatpump with Auxiliary heater

To convert SB125 heatpump PCB to auxiliary heater application, the following components need to be added onto the PCB:

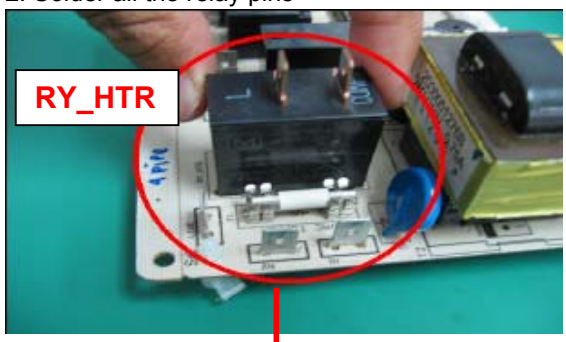
1. Shunt jumper
2. JM Relay 240VAC/ 20A

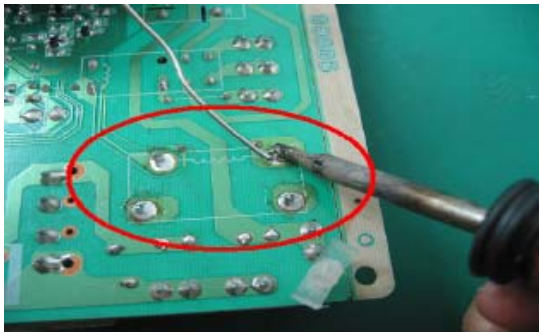
Step 1:-
Place the shunt jumper at jumper header M2.

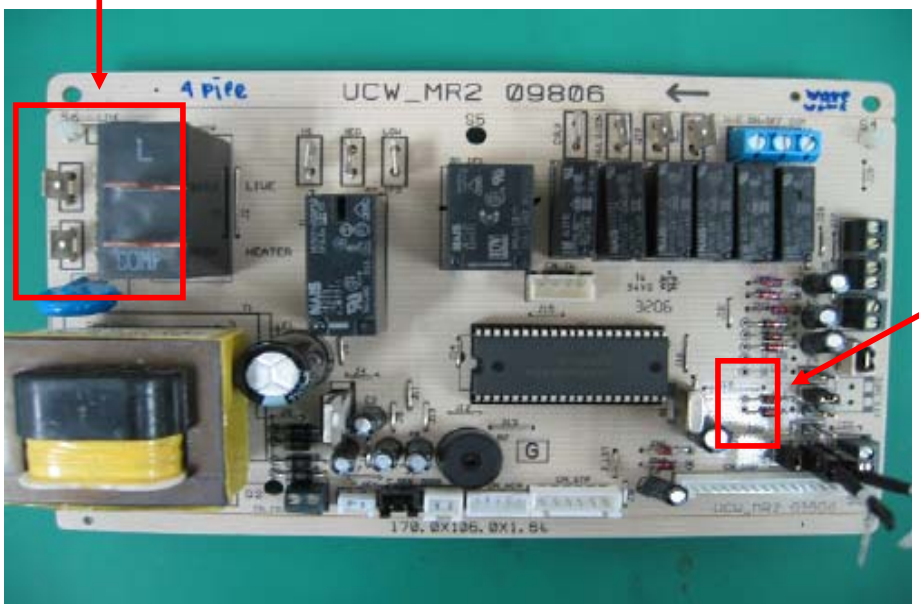




Step 2:-
1. Place the JM relay at RY_HTR location
2. Solder all the relay pins







W2 Heatpump with Auxiliary Heater

6.2 Multi Split Conversion

Cooling Only Model (L2.0 / L208A)

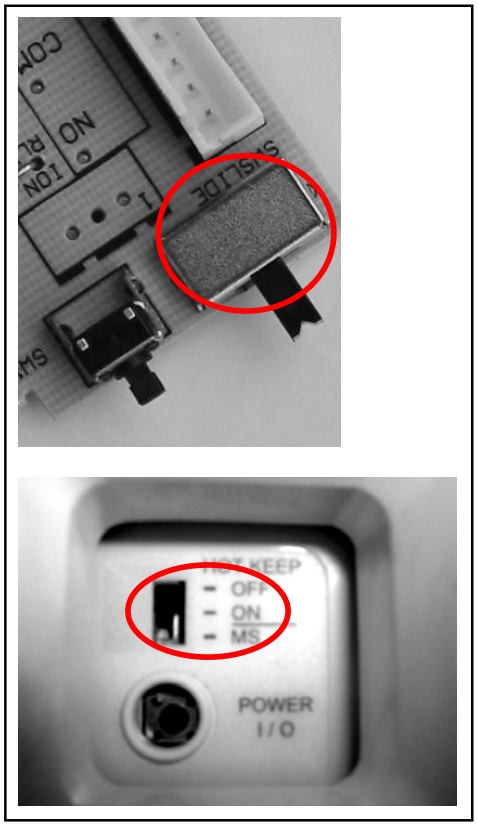
MWM-G, MCK-A/B/C/E, MCM-E, MCC-C which are using L2 control board can be switched to multi split units without any modification needed.

Heatpump Model (L2.0)

MWM-GR

The Multi Split mode can be selected at the slide switch on the On/Off Switch Board; Preset at OFF.

The outdoor coil sensor has to be removed from the PCB as the reading is taken from the outdoor PCB directly.

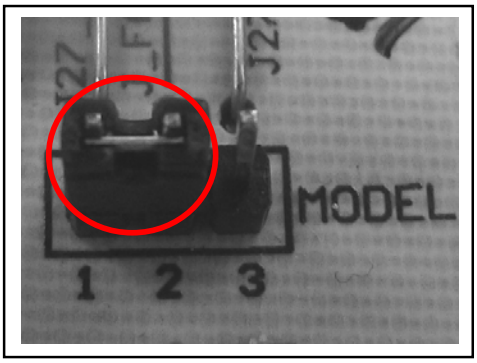


Heatpump Models (L208A)

MCK-AR/BR/CR/ER, MCM-ER, MCC-CR

The multisplit can be selected by using shunt jumper and short jumper header MODEL_KP between pin 1 & 2 as the picture shown below.

The outdoor coil sensor has to be removed from the PCB as the reading is taken from the outdoor PCB directly.



6.3 U1.5 → L208A Conversion

All single split indoor units with U1.5 PCB cannot be directly replaced by the new L208A PCB because of the following:-

MCK/M5CK-A/AR & MCK/M5CK-C/CR

U1.5 - The connector on the PCB (CN6) for the inter-connector cable has 16 pins.

L208A - The connector on the PCB (CN5 & CN6) for the inter-connector cable have 12 & 2 pins.

MCM/A5CM-D/DR & MCM/A5CM 062C/CR

U1.5 - The connector on the PCB (CN6) for the assy. LED cable has 16 pins

L208A - The connector on the PCB (CN5) for the assy. LED cable has 12 pins.

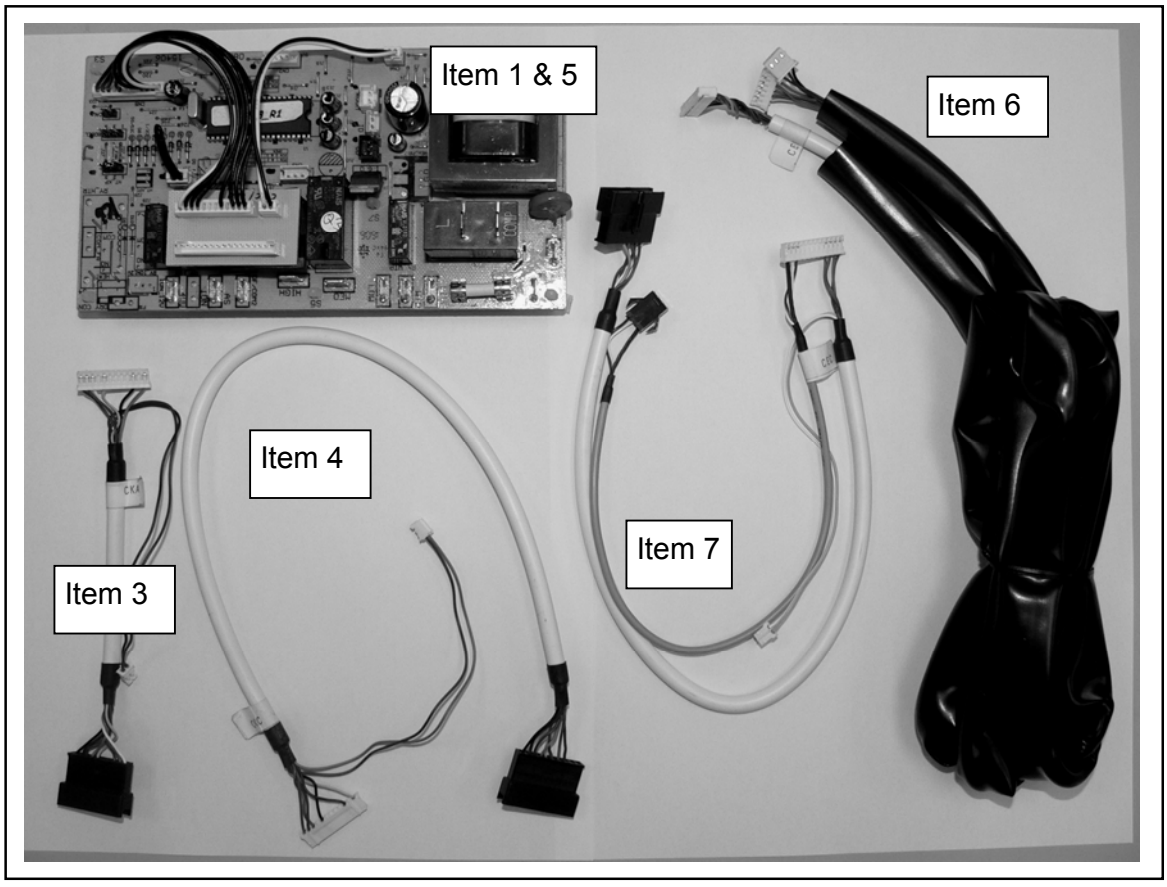
L2 Spare Parts can be ordered via e-Distributors website under Spare PARTs Ordering. The Part number is PI-C-R0094.

The L2 Spare PARTs Package contains the following items:-

1. L2 08A Heat Pump PCB.
2. Room sensor, indoor coil sensor inter-connector wire, outdoor coil sensor inter-connector wire.
3. Inter-connector cable from main board to MCK-A/AR panel.
4. Inter-connector cable from main board to MCK-C/CR panel.
5. Intermediate board with 2 sets of cables, which is stick on the main board.
6. Inter-connector cable from main board to MCM-D/DR assy. LED board.
7. Inter-connector cable from main board to MCM 062C/CR assy. LED board.

Remarks

The intermediate board with 2 sets of cables, which is stick on the L208A PCB (Item 1 & 5) is ONLY applicable for MCM/M5CM-D/DR and MCM 062C/CR models with originally using U1.5 PCB.



PART Number: PI-C-R0094

6.4 WMF U1.4 to L2EF Conversion

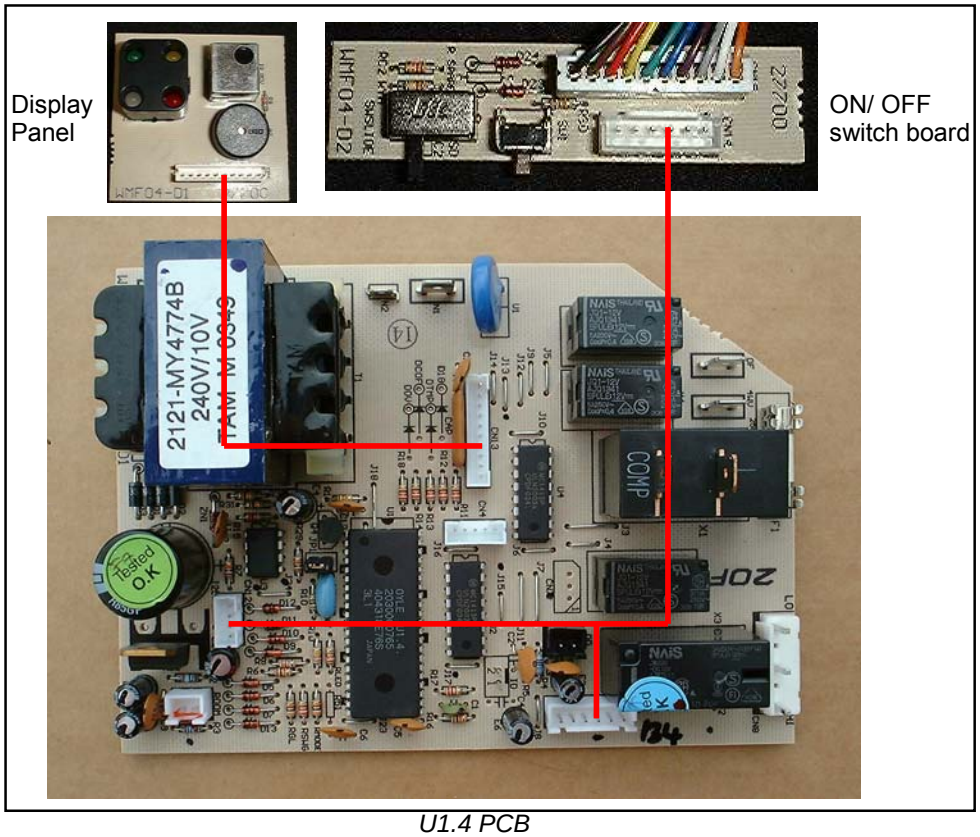
1. The U1.4 PCB can be replaced directly by the new L2EF PCB because no modification needs to be done and the connector pins for both stepper motor and fan motor is still the same as U1.4.

2. However, the display panel (IR receiver) and On/Off switch board pins on PCB for both U1.4 and L2EF is not compatible with each other; therefore it is unable to change

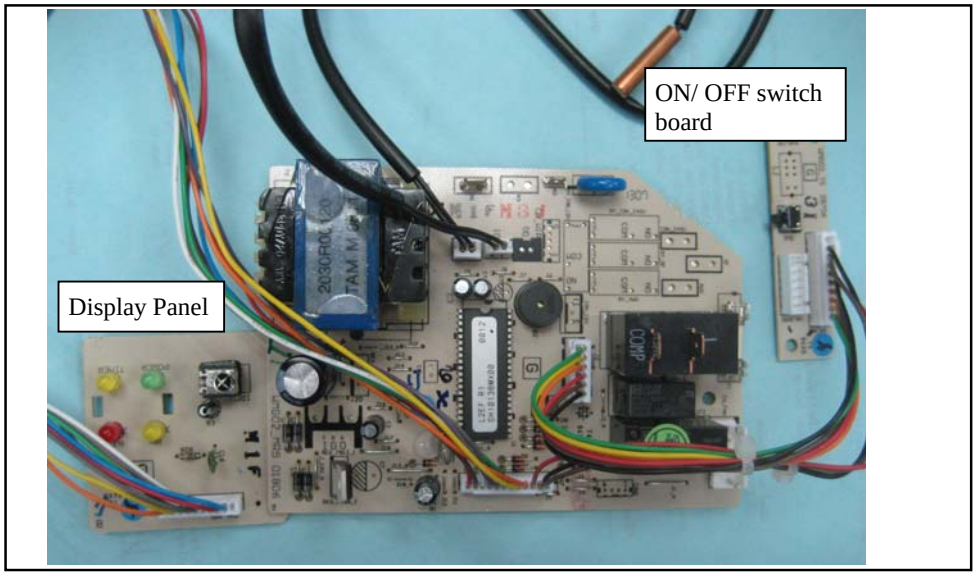
3. only the display panel or On/Off switch board from U1.4 to L2EF or L2EF to U1.4.

4. For example, if the display panel for U1.4 is malfunction, it cannot be replaced by the display panel from L2EF as the connector pins is already different.

Please refer to the following pictures for a clear description of connector pins.



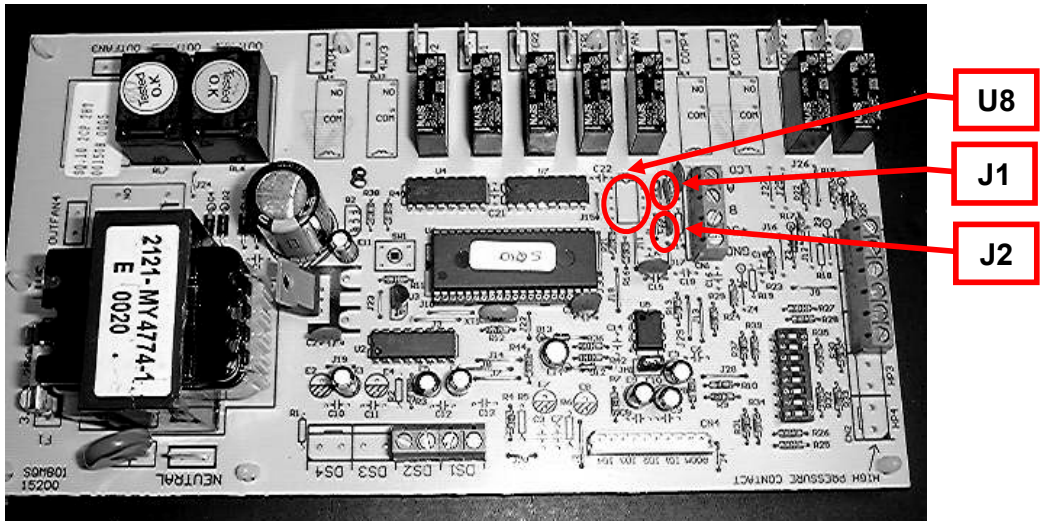
U1.4 PCB



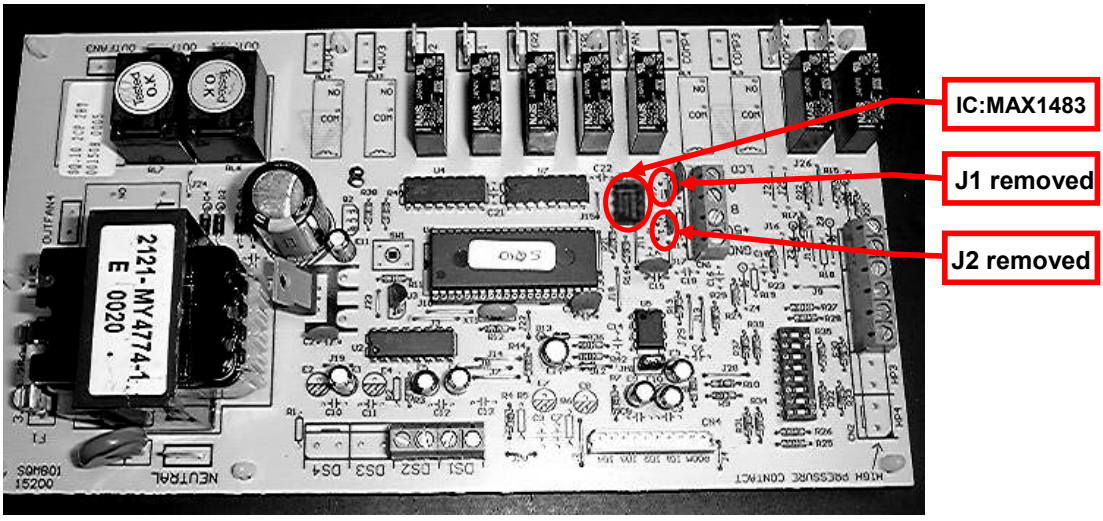
L2EF PCB: Comes with display panel and ON/OFF switch board

6.5 SQ Board for Wiring up to 1000m Conversion

Comparison of Sequential Main Board SQMB01 Before & After conversion:



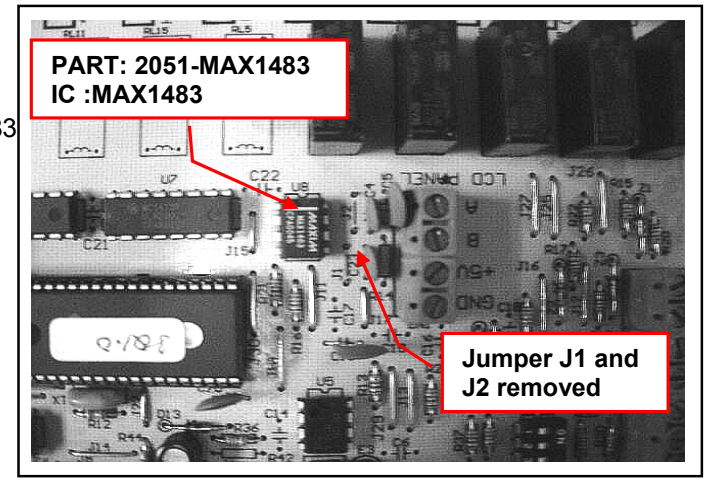
Before



After

Work Indication (WI):

Step 1: Remove Jumper J1 and J2.
Step 2: Solder PART 2051-MAX1483 (IC: MAX1483) to U8.

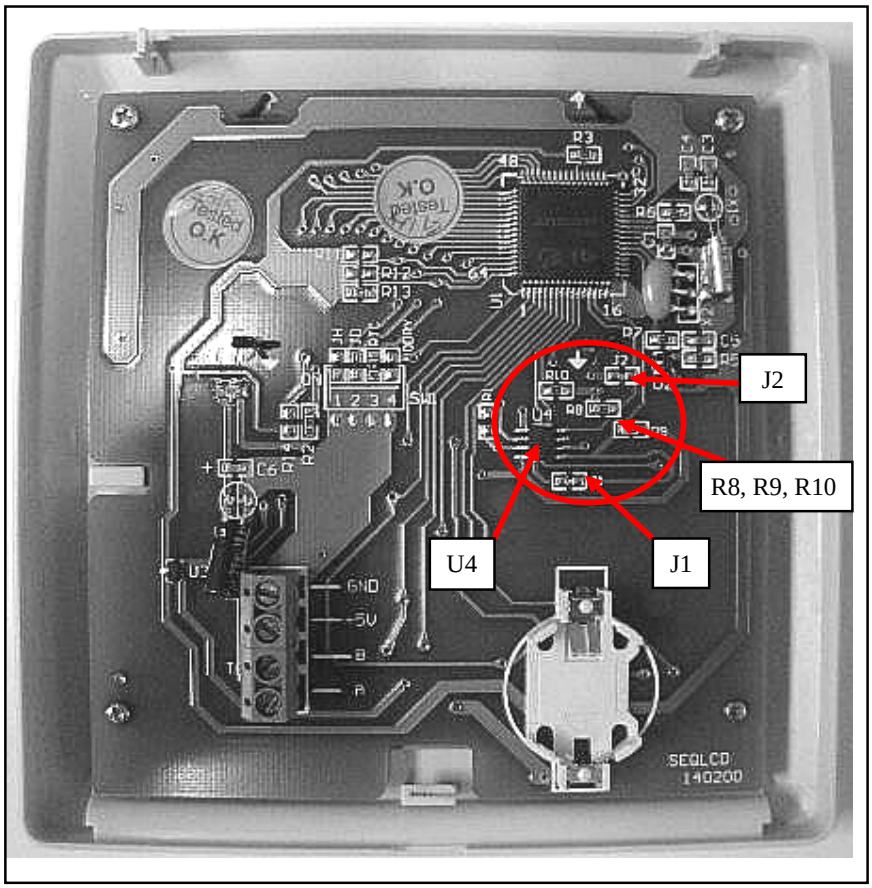


Enlarge view of SQMB01 after conversion

Sequential LCD conversion for wiring up to 1000m

Work Indication (WI):

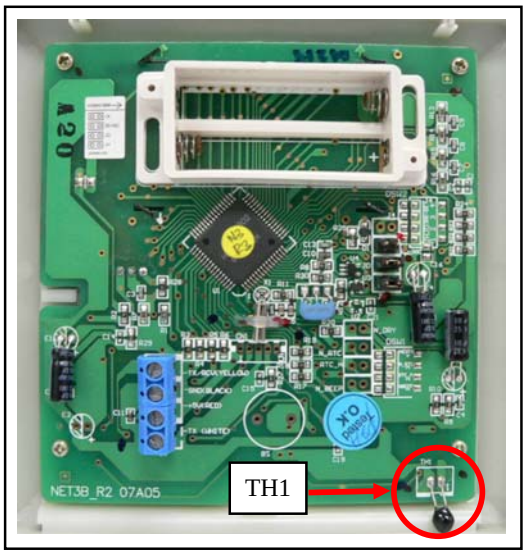
Step 1: Dismantle the BACK cover of Sequential LCD.
Step 2: Remove Jumper J1, J2.
Step 3: Add Chip Resistor 1/10W 5% 200K to R8, R9 and R10.
Step 4: Add PART 1000000030 IC: SMD MAX1438CSA to U4.



BACK View of Sequential LCD

6.6 Room Sensor on Netware 3

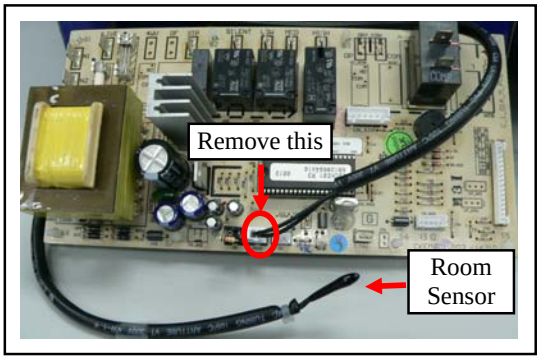
There is a temperature sensor located at TH1 on the Netware 3 controller board as shown in the picture below. The temperature sensor is optional and can be used as room sensor, so that room temperature reading will be captured from the temperature sensor on the wired controller Netware 3 instead of room sensor located at indoor PCB.



BACK view of Netware 3

If the temperature sensor TH1 is required to be used as room sensor, please follow the Work Indicator in the following:

Step 1: Turn off the main power supply.
Step 2: Remove room sensor extension from the indoor PCB.
Step 3: Turn on the main power supply and switch on the indoor unit. Room temperature reading is now taken from temperature sensor at the wired controller Netware 3.



L208A PCB

7.0 SERVICE DIAGNOSIS

7.1 LED Lights Diagnosis Table

Wall Mounted F Series Cooling Only

Model	Board	Handset
MWM 10/15/20/25F, 311	D2.0	G7
MWM 07/10/15/20/25F	L2EF	G7

POWER (Green)	SLEEP (Red)	TIMER (Orange)	DRY (Orange)	Operation / Faulty Indication	Action
○ / ●		○		Timer On	-
○	○			Sleep mode On	-
○			○	Dry mode	-
◉ Continuously			○ / ●	Defrost mode	-
◉ Once every 2s				Room air sensor contact loose / short	Check room sensor connection / change room sensor
◉ Twice every 2s				Indoor coil sensor contact loose / short	Check indoor coil sensor connection / change indoor coil sensor
◉ 3 times every 2s				Gas leak	Check for leakage & repair / Top up refrigerant

○ ON ○ / ● ON or OFF ◉ BLINKING

Wall Mounted F Series Heat Pump

Model	Board	Handset
MWM 10/15/20/25FR, 301R	U1.5	G7 / SLM3 / Netware 3 / SLM8
MWM 07/10/15/20/25FR, 311/301R	L2EF	G7

COLD (Green)	DRY (Orange)	FAN (Green)	HEAT (Red)	SLEEP (Red)	Error Code (SLM3 / Netware 3)	Operation / Faulty Indication	Action
○				○ / ●	-	Cooling mode	-
	○				-	Dry mode	-
		○			-	Fan mode	-
			○	○ / ●	-	Heating mode	-
◉			○	○ / ●	-	Auto mode in heating operation	-
○			◉	○ / ●	-	Auto mode in cooling operation	-
			◉		Heat LED blinking (SLM3 only)	Defrost mode	-
		◉			E1	Room air sensor contact loose / short	Check room sensor connection / change room sensor
				◉	E2	Indoor coil sensor contact loose / short	Check indoor coil sensor connection / change indoor coil sensor
	◉				E3	Outdoor coil sensor contact loose / short	Check outdoor coil sensor connection / change outdoor coil sensor
◉					E4	Compressor overload protection	If running ampere highly increase, change the compressor
◉	◉				E5	Gas leak	Check for leakage & repair / Top up refrigerant
◉	◉	If the system is in auto or sleep mode, switch to heat or cool mode and turn OFF the sleep function, turn OFF the power supply to reset the system, wait for 3 minutes and ON the system again.*					
◉	◉	If the system is in cool or heat mode (with the sleep function OFF), the sensor may have contact problem, compressor overload protection trip or gas leak.*					

○ ON ○ / ● ON or OFF ◉ BLINKING

Note: * Only applicable for L2EF Board.

Wall Mounted G Series

Model	Board	Handset
MWM 10/15/20/25G/GR	L2.2	G17 / SLM3 / Netware 3 / SLM8

SLEEP (Red)	**POWER** (Green/Red)	**TIMER** (Orange)	**IONIZER** (Green)	**Error Code (SLM3 / Netware 3)**	**Operation / Faulty Indication**	**Action**
○ / ●	○ Green		○ / ●	-	Cooling mode	-
○ / ●	○ Red		○ / ●	-	Heating mode	-
○ / ●	○ Red		○ / ●	-	Auto mode in heating operation	-
○ / ●	○ Green		○ / ●	-	Auto mode in cooling operation	-
	○	○		-	Timer On	-
○	○			-	Sleep mode On	-
	○		○	-	Ionizer On	-
	○		○ / ●	-	Fan mode On	-
	○		○ / ●	-	Dry mode On	-
	◉ 1 time			E1	Room air sensor contact loose / short	Check room sensor connection / change room sensor
◉	◉ 2 times			E2	Indoor coil sensor contact open	Check indoor coil sensor connection / change indoor coil sensor
	◉ 3 times			E3	Outdoor coil sensor contact open	Check outdoor coil sensor connection / change outdoor coil sensor
		◉ 1 time		E4	Compressor overload protection / Indoor / Outdoor coil sensor short	If running ampere highly increase, change the compressor. If not, replace the coil sensor
	◉ Red			-	Defrost mode	-
		◉ 3 times		E5	Gas leak	Check for leakage & repair / Top up refrigerant
		◉ 6 times		E8	Hardware error (tact switch pin short)	Check for the tact switch pin condition

○ ON ○ / ● ON or OFF ◉ BLINKING

Wall Mounted J Series

Model	Board	Handset
MWM 09/15J/JR	L2GSN	G17

SLEEP (Red)	POWER (Green/Red)	TIMER (Orange)	Error Code	Operation / Faulty Indication	Action
○ / ●	○ Green		-	Cooling mode	-
○ / ●	○ Red		-	Heating mode	-
○ / ●	○ Red		-	Auto mode in heating operation	-
○ / ●	○ Green		-	Auto mode in cooling operation	-
	○	○	-	Timer On	-
○	○		-	Sleep mode On	-
	○		-	Fan mode On	-
	○		-	Dry mode On	-
	◉ 1 time		E1	Room air sensor contact loose / short	Check room sensor connection / change room sensor
	◉ 2 times		E2	Indoor coil sensor contact open	Check indoor coil sensor connection / change indoor coil sensor
	◉ 3 times		E3	Outdoor coil sensor contact open	Check outdoor coil sensor connection / change outdoor coil sensor
		◉ 1 time	E4	Compressor overload / Indoor coil sensor short / Outdoor coil sensor short	If running ampere highly increase, change the compressor. If not, replace the coil sensor
	◉ Red		-	Defrost operation	-
		◉ 3 times	E5	Gas leak	Check for leakage & repair / Top up refrigerant
		◉ 6 times	E8	Hardware error (tact switch pin short)	Check for the tact switch pin condition
●	◉ 4 times		E9	No Feedback from indoor fan	Check indoor fan motor / fan motor wiring
	◉ 5 times		EE	EEPROM defrost	-

● ON ○ / ● ON/ OFF ◉ Blinking

Note: The unit will not detect sensor missing when the compressor is ON.

Ceiling Cassette A / B / C Series Model

Model	Board	Handset
MCK 20/25/30/40/50A/AR	U1.5	G7 / SLM3 / Netware 3 / SLM8
MCK 15/20/25B/BR	U1.5	G7 / SLM3 / Netware 3 / SLM8
MCK 10/15/20C/CR	U1.5	G7 / SLM3 / Netware 3 / SLM8

POWER (Green)	**TIMER** (Orange)	**SLEEP** (Red)	**HEAT** (Red)	**Error Code (SLM3 / Netware 3)**	**Operation / Faulty Indication**	**Action**
○				-	Cooling mode	-
○	○			-	Timer On	-
○		○		-	Sleep mode On	-
○			○	-	Heating mode	-
◉ Continuously			○ / ●	Heat LED blinking (SLM3 only)	Frost prevention mode	-
◉ Once every 3s				E4	Compressor overload protection	If running ampere highly increase, change the compressor
◉ Twice every 3s				E6	Pump fault	Clear the clogging at drain pipe. If pump is not working, change the pump
◉ 3 times every 3s				E5	Gas leak	Check for leakage & repair / Top up refrigerant
◉ 4 times every 3s				E1/E2/E3	Room / indoor / outdoor coil sensor contact loose / short	Check room/indoor/ outdoor coil sensor connection / change room/indoor/outdoor sensor

○ ON ○ / ● ON or OFF ◉ BLINKING

Ceiling Cassette A / B / C/ E Series Model

Model	Board	Handset
MCK 20/25/30/40/50A/AR	L208A	G17 / SLM3 / Netware 3 / SLM8
MCK 15/20/25B/BR	L208A	G17 / SLM3 / Netware 3 / SLM8
MCK 10/15/20C/CR	L208A	GS01 / G17 / SLM3 / Netware 3 / SLM8
MCK 20/25/28/40/50E/ER	L208A	GS01 / G17

POWER (Green)	**TIMER** (Orange)	**SLEEP** (Red)	**HEAT** (Red)	**Error Code (SLM3 / Netware 3)**	**Operation / Faulty Indication**	**Action**
○				-	Cooling mode	-
○	○			-	Timer On	-
○		○		-	Sleep mode On	-
○			○	-	Heating mode	-
○			◉	-	Auto mode in cooling operation	-
○			○	-	Auto mode in heating operation	-
◉ 1 time				E1	Room air sensor contact loose / short	Check room sensor connection / change room sensor
◉ 2 times				E2	Indoor coil sensor contact open	Check indoor coil sensor connection / change indoor coil sensor
◉ 3 times				E3	Outdoor coil sensor contact open	Check outdoor coil sensor connection / change outdoor coil sensor
	◉ 1 time			E4	Compressor overload protection / Indoor coil sensor short / Outdoor coil sensor short	If running ampere highly increase, change the compressor. If not, replace the coil sensor
	◉ 2 times			E6	Pump fault	Clear the clogging at drain pipe. If pump is not working, change the pump
	◉ 3 times			E5	Gas leak	Check for leakage & repair / Top up refrigerant
	◉ 5 times			E7	Outdoor coil sensor exist (MS model)	Remove outdoor coil sensor
	◉ 6 times			E8	Hardware error (tact switch pin short)	Replace the tact switch control board

○ ON ○ / ● ON or OFF ◉ BLINKING

Ceiling Exposed D Series Model

Model	Board	Handset
MCM 20/25/30/40/50D/DR	U1.5	G7 / SLM3 / Netware 3 / SLM8

COOL (Green)	**DRY** (Orange)	**FAN** (Green)	**HEAT** (Red)	**Error Code (SLM3 / Netware 3)**	**Operation / Faulty Indication**	**Action**
○				-	Cooling mode	-
	○			-	Dry mode	-
		○		-	Fan mode	-
			○	-	Heating mode	-
○			◉	-	Auto mode in cooling operation	-
◉			○	-	Auto mode in heating operation	-
			◉	Heat LED blinking (SLM3 only)	Defrost mode	-
		◉		E1	Room air sensor contact loose / short	Check room sensor connection / change room sensor
	◉	◉		E2	Indoor coil sensor contact open / short	Check indoor coil sensor connection / change indoor coil sensor
	◉			E3	Outdoor coil sensor contact open / short	Check outdoor coil sensor connection / change outdoor coil sensor
◉				E4	Compressor overload protection	If running ampere highly increase, change the compressor
◉	◉			E5	Gas leak	Check for leakage & repair / Top up refrigerant

○ ON ○ / ● ON or OFF ◉ BLINKING

Ceiling Exposed D / E Series Model

Model	Board	Handset
MCM 20/25/30/40/50D/DR	L208A	G17 / SLM3 / Netware 3 / SLM8
MCM 15/20/25/28E/ER	L208A	G17 / SLM3 / Netware 3 / SLM8

COOL (Green)	**DRY** (Orange)	**FAN** (Green)	**HEAT** (Red)	**Error Code (SLM3 / Netware 3)**	**Operation / Faulty Indication**	**Action**
○				-	Cooling mode	-
	○			-	Dry mode	-
		○		-	Fan mode	-
			○	-	Heating mode	-
○			◉	-	Auto mode in cooling operation	-
◉			○	-	Auto mode in heating operation	-
		◉		E1	Room air sensor contact loose / short	Check room sensor connection / change room sensor
	◉	◉		E2	Indoor coil sensor contact open	Check indoor coil sensor connection / change indoor coil sensor
	◉			E3	Outdoor coil sensor contact open	Check outdoor coil sensor connection / change outdoor coil sensor
◉				E4	Compressor overload protection / Indoor coil sensor short / Outdoor coil sensor short	If running ampere highly increase, change the compressor. If not, replace the coil sensor
◉	◉			E5	Gas leak	Check for leakage & repair / Top up refrigerant
◉			◉	E7	Outdoor coil sensor exist (MS model)	Remove outdoor coil sensor
◉	◉	◉	◉	E8	Hardware error (tact switch pin short)	Replace the tact switch control board

Blink Heat, Cool, follow by Fan, Dry

○ ON ○ / ● ON or OFF ◉ BLINKING

Chilled Water Fan Coil Unit

Model	Board	Handset
MWM 05 – 25FW, 301W	W1V3	G7 / SLM3 / Netware 3 / SLM8
MCK 20 – 50AW/MWH	W1V3	G7 / SLM3 / Netware 3 / SLM8
MCK 15 – 25BW	W1V3	G7 / SLM3 / Netware 3 / SLM8
MCK 10 – 20CW	W1V3	G7 / SLM3 / Netware 3 / SLM8
MCM 20 – 50DW/CBW	W1V3	G7 / SLM3 / Netware 3 / SLM8
MCC 10 – 60CW	W1V3	SLM3 / Netware 3 / SLM8
MDB 75 – 150BW	N/A	No Controller

Self Diagnostic Table – W1V3

Fault Indication	POWER LED / COOL LED	Other LEDs	Error Code	Action
Room sensor missing	Blinks 4 times	FAN blinks	E1	Check room sensor connection / change room sensor
Indoor coil sensor missing	Blinks 4 times	SLEEP blinks	E2	Check indoor coil sensor connection / change indoor coil sensor
Pump fault	Blinks 2 times	COOL & FAN blink	E6	Clear the clogging at drain pipe. If pump is not working, change the pump
Pipe water temperature poor	Blinks 3 times	COOL & DRY blink	E4	-
Pipe water temperature fault	Blinks 1 time	COOL blinks	E5	-

Model	Board	Handset
MWM 07 – 25G2W	W2	G17 / SLM3 / Netware 3 / SLM8
MWM 301W	W2	G17 / SLM3 / Netware 3 / SLM8
MCK 20 – 50AW/MWH	W2	G17 / SLM3 / Netware 3 / SLM8
MCK 15 – 25BW	W2	G17 / SLM3 / Netware 3 / SLM8
MCK 10 – 20CW	W2	G17 / SLM3 / Netware 3 / SLM8
MCM 07 – 15CBW	W2	G17 / SLM3 / Netware 3 / SLM8
MCM 20 – 50DW	W2	G17 / SLM3 / Netware 3 / SLM8
MCM 15 – 25EW	W2	G17 / SLM3 / Netware 3 / SLM8
MCC 10 – 60CW	W2	SLM3 / Netware 3 / SLM8
MDB 75 – 150BW	N/A	No Controller

Self Diagnostic Table – W2

Fault Indication	COOL LED	Error Code	Action
Room sensor error (short/open)	Blink 1 time	E1	Check room sensor connection / change room air sensor
Pipe water sensor error (short/open)	Blink 2 times	E2	Check pipe water sensor connection / change pipe water sensor
Water pump error	Blink 6 times	E6	Clear the clogging at drain pipe. If pump is not working, change the pump
Pipe water temperature fault	Blink 5 times	E5	
Window open activated*	Blink 3 times	-	-
Antifreeze mode activated*	Blink 7 times	-	-
Load shedding activated*	Blink 8 times	-	-

*Applicable for 4 pipes applications only.

Water Source Split Unit – Wall Mounted G Series Model

Model	Board	Handset
M5WMWS 10/15/20/25GR	LWS2.0	G17 / SLM3 / Netware 3 / SLM8

SLEEP (Red)	POWER (Green/Red)	TIMER (Orange)	IONIZER (Green)	Error Code (SLM3 / Netware 3)	Operation / Faulty Indication	Action
○ / ●	○ Green		○ / ●	-	Cooling mode	-
○ / ●	○ Red		○ / ●	-	Heating mode	-
○ / ●	○ Red		○ / ●	-	Auto mode in heating operation	-
○ / ●	○ Green		○ / ●	-	Auto mode in cooling operation	-
	○	○		-	Timer On	-
○	○			-	Sleep mode On	-
	○		○	-	Ionizer On	-
	○		○ / ●	-	Fan mode On	-
	○		○ / ●	-	Dry mode On	-
	◉ 1 time			E1	Room air sensor contact loose / short	Check room sensor connection / change room sensor
◉	◉ 2 times			E2	Indoor coil sensor contact open	Check indoor coil sensor connection / change indoor coil sensor
	◉ 3 times			E3	Outdoor coil sensor contact open	Check outdoor coil sensor connection / change outdoor coil sensor
		◉ 1 time		E4	Compressor overload protection / Indoor / Outdoor coil sensor short	If running ampere highly increase, change the compressor. If not, replace the coil sensor
	◉ Red			Heat LED blinking (SLM3 only)	Defrost mode	-
		◉ 3 times		E5	Gas leak	Check for leakage & repair / Top up refrigerant
		◉ 6 times		E8	Hardware error (tact switch pin short)	Check for the tact switch pin condition

○ ON ○ / ● ON or OFF ◉ BLINKING

Water Source Split Unit – Ceiling Cassette A / B / C Series Model

Model	Board	Handset
M5CKWS 20/25/30/40/50AR	LWS2.0	G17 / SLM3 / Netware 3 / SLM8
M5CKWS 10/15/20CR	LWS2.0	G17 / SLM3 / Netware 3 / SLM8

POWER (Green)	**TIMER** (Orange)	**HEAT** (Red)	**Error Code (SLM3 / Netware 3)**	**Operation / Faulty Indication**	**Action**
○			-	Cooling mode	-
○	○		-	Timer On	-
○		○	-	Heating mode	-
○		◉	-	Auto mode in cooling operation	-
○		○	-	Auto mode in heating operation	-
◉ 1 time			E1	Room air sensor contact loose / short	Check room sensor connection / change room sensor
◉ 2 times			E2	Indoor coil sensor contact loose / open	Check indoor coil sensor connection / change indoor coil sensor
◉ 3 times			E3	Outdoor coil sensor contact loose / open	Check outdoor coil sensor connection / change outdoor coil sensor
	◉ 1 time		E4	Compressor overload protection	If running ampere highly increase, change the compressor
	◉ 2 times		E6	Pump fault	Clear the clogging at drain pipe. If pump is not working, change the pump
	◉ 3 times		E5	Gas leak	Check for leakage & repair / Top up refrigerant

○ ON ○ / ● ON or OFF ◉ BLINKING

Wall Mounted F Cooling Only Inverter-X Model

Model	Board	Handset
MWMX 10/15F	VA2.0	G17 / SLM3

TIMER (Orange)	SLEEP (Red)	POWER (Green)	DRY (Orange)	Error Code (SLM3)	Operation / Faulty Indication	Action
○		○ / ●			Timer On	-
	○	○			Sleep mode On	-
		○	○		Dry mode	-
			◉	E1	Indoor temperature sensors contact loose / short	Check indoor coil sensor connection / change indoor coil sensor
		◉		E2	Outdoor temperature sensor contact loose / short	Check outdoor coil sensor connection / change outdoor coil sensor
◉			◉	E3	Communication error between indoor and outdoor	Check the connection wires between indoor and outdoor
◉				E4	Compressor overload protection	If running ampere highly increase, change the compressor
◉		◉		E6	Gas leak / compressor overheat	Check for leakage & repair / Top up refrigerant
		◉	◉	E7	Inverter error / PFC error	Check supply voltage and compressor phase
	◉	◉		E8	Outdoor total current trip / DC peak	Check the input current and discharge pressure
◉	◉			E9	Indoor fan feedback error	Check indoor fan motor / fan motor wiring

○ ON ○ / ● ON or OFF ◉ BLINKING

Wall Mounted F Heatpump Inverter-X Model

Model	Board	Handset
MWMX 10/15FR	VA2.0	G17 / SLM3

COOL/DRY / (Green)	**HEAT** (Red)	**STAND-BY/FAN** (Orange)	**TIMER** (Orange)	**Error Code (SLM3)**	**Operation / Faulty Indication**	**Action**
○			○ / ●	--	Cooling mode	-
○			○ / ●	--	Dry mode	-
		○		--	Stand-by / Fan mode	-
	○		○ / ●	--	Heating mode	-
○	○		○ / ●	--	Auto mode	-
	◉			--	Defrost mode	-
			◉	E1	Indoor temperature sensors contact loose / short	Check indoor coil sensor connection / change indoor coil sensor
		◉		E2	Outdoor temperature sensor contact loose / short	Check outdoor coil sensor connection / change outdoor coil sensor
◉			◉	E3	Communication error between indoor and outdoor	Check connection wires between indoor and outdoor
◉				E4	Compressor overload protection	If running ampere highly increase, change the compressor
◉		◉		E6	Gas leak / compressor overheat	Check for leakage & repair / Top up refrigerant
		◉	◉	E7	Inverter error / PFC error	Check supply voltage and compressor phase
	◉	◉		E8	Outdoor total current trip / DC peak	Check the input current and discharge pressure
◉	◉			E9	Indoor fan feedback error	Check indoor fan motor / fan motor wiring

○ ON ○ / ● ON or OFF ◉ BLINKING

Wall Mounted G Series Inverter-X Model

Model	Board	Handset
MWMX 10/15/20/25G/GR	VA2.0	G17 / SLM3

SLEEP (Red)	POWER (Green/Red)	TIMER (Orange)	IONIZER (Green)	Error Code (SLM3)	Operation / Faulty Indication	Action
○ /●	○		○ /●	-	Cooling mode	-
○ /●	○		○ /●	-	Heating mode / Standby mode (only for heat pump model)	-
○ /●	○		○ /●	-	Auto mode in operation	-
	○	○		-	Timer On	-
○	○			-	Sleep mode On	-
	○		○	-	Ionizer On	-
	○		○ /●	-	Fan mode On	-
	○		○ /●	-	Dry mode On	-
	◉ Red			-	Defrost mode	-
	◉ Green			E1	Indoor temperature sensor loose / short	Check indoor coil sensor connection / change indoor coil sensor
		◉		-	Coil temperature sensor loose / short	Check coil sensor connection / change coil sensor
			◉	E2	Outdoor temperature sensor loose / short	Check outdoor coil sensor connection / change outdoor coil sensor
◉		◉		E3	Communication error between indoor and outdoor	Check the connection wires between indoor and outdoor
◉	◉ Green			E4	Compressor overload protection	If running ampere highly increase, change the compressor
◉			◉	E6	Compressor overheat / gas leak	Check for leakage & repair / Top up refrigerant
	◉ Green		◉	E7	IPM / PFC error	Check supply voltage and compressor phase
		◉	◉	E8	Outdoor total current trip / DC peak	Check the input current and discharge pressure
	◉ Green	◉		E9	Indoor fan feedback error	Check indoor fan motor / fan motor wiring

○ ON ○ /● ON or OFF ◉ BLINKING

Ceiling Cassette A/C Series Inverter-X Model

Model	Board	Handset
MCKX 20/25A/AR	VA3.0	G17 / SLM3
MCKX 10/15/20C/CR	VA3.0	G17 / SLM3

POWER (Green)	TIMER (Orange)	SLEEP (Red)	HEAT (Red)	Error Code (SLM3)	Operation / Faulty Indication	Action
○				-	Cooling mode	-
○	○			-	Timer On	-
○		○		-	Sleep mode On	-
○			○	-	Heating mode	-
			◉	-	Defrost mode	-
◉ 1 time				E1	Indoor temperature sensor loose / short	Check indoor coil sensor connection / change indoor coil sensor
◉ 2 times				E2	Outdoor temperature sensor loose / short	Check outdoor coil sensor connection / change outdoor coil sensor
◉ 3 times				E3	Communication error	Check connection wires between indoor and outdoor
◉ 4 times	◉			E4	Compressor overload protection	If running ampere highly increase, change the compressor
◉ 5 times				E5	Pump fault	Clear the clogging at drain pipe. If pump is not working, change the pump
◉ 6 times				E6	Compressor overheat / gas leak	Check for leakage & repair / Top up refrigerant
◉	◉			E7	IPM / PFC / Partial switching	Check supply voltage and compressor phase
	◉			E8	Outdoor over current	Check the input current and discharge pressure

○ ON ○ / ● ON or OFF ◉ BLINKING

Ceiling Convertible E Series Inverter-X Model

Model	Board	Handset
MCMX 15/20/25E/ER	VA3.0	G17 / SLM3

COOL (Green)	DRY (Orange)	FAN (Green)	HEAT (Red)	Error Code (SLM3)	Operation / Faulty Indication	Action
○				-	Cooling mode	-
	○			-	Dry mode	-
		○		-	Fan mode	-
			○	-	Heating mode	-
			◉	-	Defrost mode	-
◉ 1 time				E1	Indoor temperature sensor loose / short	Check indoor coil sensor connection / change indoor coil sensor
◉ 2 times				E2	Outdoor temperature sensor loose / short	Check outdoor coil sensor connection / change outdoor coil sensor
◉ 3 times				E3	Communication error	Check connection wires between indoor and outdoor
◉ 4 times				E4	Compressor overload protection	If running ampere highly increase, change the compressor
◉ 6 times				E6	Compressor overheat / gas leak	Check for leakage & repair / Top up refrigerant
◉		◉		E7	IPM / PFC / Partial switching	Check supply voltage and compressor phase
	◉			E8	Outdoor over current	Check the input current and discharge pressure

○ ON ○ / ● ON or OFF ◉ BLINKING

Inverter – X Outdoor Unit

Model	Board
MLCX 10/15/20/25C/CR	VB2.0
MMSV 25/35A	VB2.0
AMSX 20/25/30A/AR	VB2.0

Normal running / compressor running RED LED blinking

No. of Blinks	Blinking Indication
1	Normal running, with no limitation
2	Voltage limit
3	Cooling unit: outdoor coil temperature limit Heating unit: indoor coil temperature limit
4	Total current limit
5	Discharge temperature limit
6	Cooling unit: indoor coil temperature limit
7	Indoor fan control
8	Outdoor frequency adjustment

Compressor stopped Error Indication

No. of Blinks		Faulty Indication	No. of Blinks		Faulty Indication
Red	Yellow		Red	Yellow	
0	1	Outdoor ambient sensor error	1	5	DC fan motor feedback error
0	2	Outdoor coil sensor error	1	6	AC peak current error
0	3	Outdoor discharge sensor error / compressor overheat	1	7	Outdoor suction sensor error
0	4	DC compressor feedback error	1	8	None
0	5	Communication error	1	9	DC compressor speed control error
0	6	Over current error	2	0	None
0	7	No load	2	1	Outdoor suction pipe A sensor error
0	8	Over / under voltage	2	2	Outdoor suction pipe B sensor error
0	9	DC compressor start failure	2	3	Outdoor suction pipe C sensor error
1	0	Cooling overload	2	4	Outdoor suction pipe D sensor error
1	1	Defrost	3	1	Communication error with indoor A
1	2	IPM protection	3	2	Communication error with indoor B
1	3	Read EEPROM error	3	3	Communication error with indoor C
1	4	Write EEPROM error	3	4	Communication error with indoor D

Inverter-Y Model Indoor Series

Model	Board	Handset
M5WMY 10/15/20/25 JR	W_2_03A	GS01 / G17
M5CKY 10/15/20CR	C_2_01A	GS01 / G17 / Netware 3C
M5CKY 20/25/28/40/50 ER	C_2_01A	GS01 / G17 / Netware 3C
A5CMY 62 CR	C_2_01A	GS01 / Netware 3C
A5CMY 20/25/28/40/50 ER	C_2_01A	GS01 / G17 / Netware 3C
M5CCY10/15/20/25/28/38/50/60 CR	C_2_01A	Netware 3C

SLEEP ★ (Red)	**COOL/HEAT** ⏻ (Green/Red)	**TIMER** ◔ (Orange)	Operation / Faulty Indication
	○ Green		Cooling mode
	○ Red		Heating mode
	○ Red		Auto mode in heating operation
	○ Green		Auto mode in cooling operation
	○	○	Time Off (when unit is on)
		○	Time On (when unit is off)
○	○		Sleep mode on
	○ Green		Fan mode on
	○ Green		Dry Mode on
	◉ Red		Defrost operation
	◉ Green		Error indication

○ ON ◉ Blinking

Single Split Inverter – Y Outdoor Unit

Model	Board
M5LCY 10/15 DR	S_2_03A
M5LCY 20/25 CR	S_2_04A
M5LCY 30/40/50/60 FR	-

Error code diagnosis by Outdoor 7-segment Display

In the Y-series model, the 7-segment display section on the outdoor unit indicates the following:
1. Unit running parameters
2. Error codes

Unit Condition	Display on 7-segment
Unit in normal operating mode	1. Flashes the compressor running frequency for up to 30 minutes after first start-up/ tact switch is pressed. 2. Subsequently, press on the tact switch to return to the above display. 3. Flashes up to 11 running parameters when tact switch is pressed in the sequence corresponding to the parameter number (refer to Unit Running Parameter Table).
Unit is in fault	1. Flashes unit error code (similar to wireless handset) 2. Flashes up to 11 running parameters when tact switch is pressed in the sequence corresponding to the parameter number (refer to Unit Running Parameter Table).

1. Unit Running Parameters:

Parameter Number	Parameter Description	Unit/ Range
00	Compressor actual rotation	r/s
01	Compressor target rotation	r/s
02	Dc bus voltage	VDC
03	Total current (x10)	A
04	Outdoor air temperature	°C
05	Outdoor heat exchanger temperature	°C
06	Compressor discharge temperature	°C
07	Outdoor heat sink temperature	°C
08	Indoor air temperature	°C
09	Indoor heat exchanger temperature	°C
10	EXV Opening	Pulse

2. Error Codes (HAP: Microcomputer in operation; H3P: Error Detection):

LED INDICATION		Description
HAP	H3P	
Green	Red	
◉	●	Normal
○	–	Faulty Outdoor Unit PCB Board
●	–	Power Supply Abnormality or Faulty Outdoor PCB Board
◉	○	Activation of Protection Device

HAP: Microcomputer in normal operation
H3P: Error Detection

◉ Blinks
● Off
○ On

Multi Split Inverter – Y Outdoor Unit

Model	Board
M5MSY 20/25/30 BR	-

The outdoor unit LED indicates the running condition of the system:

LED INDICATION					Description
Green	Red				
A	1	2	3	4	
◉	●	●	●	●	NORMAL
					INSTALLATION ERROR
					ANTIFREEZE (OTHER ROOMS)
◉	●	●	●	○	HEAT SINK OVERHEAT
◉	●	●	○	●	IPM ERROR / IGBT ERROR
◉	●	●	○	○	INSUFFICIENT GAS
◉	●	○	●	○	AC INPUT OVER CURRENT
◉	●	○	○	●	COMPRESSOR STMRT-UP ERROR
◉	●	○	○	○	COMMUNICATION ERROR (OUTDOOR CONTROL PCB AND IPM PCB)
◉	○	●	●	●	4 WAY VALVE ERROR
◉	○	●	●	○	DC VOLTAGE OUT OF RANGE
◉	○	●	○	●	COMPRESSOR MOTOR LOCK / COMPRESSOR OVERLOADED
◉	○	●	○	●	DISCHARGE PIPE OVERHEAT
◉	○	●	○	○	ANTIFREEZE (COOLING) / HEAT EXCHANGER OVERHEAT (HEATING) HEAT EXCHANGER OVERHEAT
◉	○	○	●	●	COMPRESSOR SENSOR SYSTEM ERROR
					COMPRESSOR FEEDBACK DETECTION ERROR
					AC CURRENT SENSOR ERROR
					OUTDOOR AIR THERMISTOR SHORT/OPEN
					COMPRESSOR DISCHARGE PIPE THERMISTOR SHORT / OPEN / MISPLACED
					OUTDOOR HEAT EXCHANGER THERMISTOR SHORT/ OPEN
					LIQUID PIPE THERMISTOR SHORT/ OPEN
					GAS PIPE THERMISTOR SHORT/OPEN
					HEAT SINK THERMISTOR SHORT / OPEN
◉	○	○	●	○	OUTDOOR CONTROL BOX OVERHEAT
◉	○	○	○	●	OUTDOOR PCB ERROR
◉	○	○	○	○	OUTDOOR DC FAN MOTOR LOCK

◉ Blinks
● Off
○ On

7.2 Error Codes Diagnosis By Handset

SLM 3 / Netware 3 / SLM 9 – On/Off Models

Error Code	Faulty Indication
E1	Room air sensor contact loose / short
E2	Indoor coil sensor contact open
E3	Outdoor coil sensor contact open
E4	Compressor overload protection/ Indoor coil sensor short/ Outdoor coil sensor short
E5	Gas leak
E6	Water Pump fault*
E7	Outdoor coil sensor exist (Multi-split model)
E8	Hardware error (tact switch pin short)
LO	Room temperature below 8ºC(46 ºF)
HI	Room temperature above 37ºC(99 ºF)
OP	Working room sensor is open
SH	Working room sensor is short
HEAT LED blinking	Defrost mode (SLM3 only)

*Applicable for Ceiling Cassette Model only.
*SLM 3 and SLM 9 only display Error Code E1 to E6.

SLM 3 / Netware 3 – Fan Coil Unit

Error Code	Faulty Indication
E1	Room sensor short / open
E2	Pipe water sensor short / open
E4	Pipe water temperature poor
E5	Pipe water temperature fault
E6	Water pump fault

SLM 3 – Inverter X Models

Error Codes	Faulty Indication
E1	Indoor temperature sensor loose / short
E2	Outdoor temperature sensor loose / short
E3	Communication error
E4	Compressor overload protection
E5	Pump fault
E6	Compressor overheat / gas leak
E7	IPM / PFC / Partial switching
E8	Outdoor over current
E9	Indoor fan feedback error

Netware 3C / SLM 9 - Inverter Y Models (Except 5WMY-J/JR)

Error Code	Faulty Indication	Error Code	Faulty Indication
00	Normal	*H9*	Outdoor air thermistor short/open
A1	Indoor PCB error	*J1*	Pressure sensor error
A3	Drain pump fault	*J3*	Compressor discharge pipe thermistor short/open/misplaced
A5	Antifreeze(Cooling) / Heat exchanger overheat(Heating)	*J5*	Suction pipe thermistor short/open
A6	Indoor fan motor fault	*J6*	Outdoor heat exchanger thermistor short/open
AH	Electrical air cleaner fault	*J7*	Sub cooling heat exchanger thermistor short/open
C4	Indoor heat exchanger (1) thermistor short/open	*J8*	Liquid pipe thermistor short/open
C5	Indoor heat exchanger (2) thermistor short/open	*J9*	Gas pipe thermistor short/open
C7	Louver limit switch error	*L1*	Inverter outdoor PCB error
C9	Indoor room thermistor short/open	*L3*	Outdoor control box overheat
E1	Outdoor PCB error	*L4*	Heat sink overheat
E3	High pressure protection	*L5*	IPM error/IGBT error
E4	Low pressure protection	*L8*	Electrical thermal switch
E5	Compressor motor lock/compressor overloaded	*L9*	Stall prevention
E6	Compressor start-up error	*LC*	Communication error (outdoor PCB & inverter PCB)
E7	Outdoor DC fan motor lock	*P1*	Open phase or voltage unbalance
E8	Ac input over current	*P4*	Heat sink thermistor short/open
E9	EXV error	*PJ*	Capacity setting error
EA	4 way valve error	*U0*	Insufficient gas
F3	Discharge pipe overheat	*U2*	DC voltage out of range
F6	Heat exchanger overheat	*U4*	Communication error
HO	Compressor sensor system error	*U7*	Communication error (outdoor PCB & IPM PCB)
H3	High pressure switch error	*UA*	Installation error
H6	Compressor feedback detection error	*UF*	Piping & wiring installation mismatch/wrong wiring/insufficient gas
H7	Fan motor overloaded/over current/sensor fault	*UH*	Anti freeze (other rooms)
H8	AC current sensor error		

Sequential Controller (SQ LCD) – SB & RT Multi Compressors

Error Code	Faulty Indication	Error Code	Faulty Indication
E01	Require manual reset (possible causes)	*E19*	Indoor coil sensor 4 short
E02	Compressor 1 high temperature (overload)	*E20*	Indoor coil sensor 1 open
E03	Compressor 2 high temperature (overload)	*E21*	Indoor coil sensor 2 open
E04	Compressor 3 high temperature (overload)	*E22*	Indoor coil sensor 3 open
E05	Compressor 4 high temperature (overload)	*E23*	Indoor coil sensor 4 open
E06	Compressor 1 high pressure trip / contact open	*E24*	Outdoor coil sensor 1 short
E07	Compressor 2 high pressure trip / contact open	*E25*	Outdoor coil sensor 2 short
E08	Compressor 3 high pressure trip / contact open	*E26*	Outdoor coil sensor 3 short
E09	Compressor 4 high pressure trip / contact open	*E27*	Outdoor coil sensor 4 short
E10	Compressor 1 trip/low refrigerant/outdoor abnormal	*E28*	Outdoor coil sensor 1 open
E11	Compressor 2 trip/low refrigerant/outdoor abnormal	*E29*	Outdoor coil sensor 2 open
E12	Compressor 3 trip/low refrigerant/outdoor abnormal	*E30*	Outdoor coil sensor 3 open
E13	Compressor 4 trip/low refrigerant/outdoor abnormal	*E31*	Outdoor coil sensor 4 open
E14	Room sensor short	*E32*	Compressor 1 de-ice
E15	Room sensor open	*E33*	Compressor 2 de-ice
E16	Indoor coil sensor 1 short	*E34*	Compressor 3 de-ice
E17	Indoor coil sensor 2 short	*E35*	Compressor 4 de-ice
E18	Indoor coil sensor 3 short		

Rooftop Panel

Alarm Shown On The Rooftop Panel

• Whenever panel received a new alarm, an alarm message will pop up on the LCD. It shows type of alarm, alarm occurred time and date. Backlight blinking (if Backlight is not OFF) and alarms buzzer produces beeping sound (if it's set ON). The buzzer will beep for 10 minutes after that stop for 5 minutes (with the Backlight still blinking), this process keep looping until the alarm is dissolved or a key press is detected.
• Backlight will stop blinking via key press. Press UP or DOWN key to scroll the alarms display if more than one alarms occurred. Press ESC to exit to the summary pages.
• If one of the alarms has been dissolved, pop up message will update its display (would not show the dissolved alarm anymore). If all the alarms have been dissolved, it will exit to the summary pages automatically.
• If the existing alarm has not been dissolved and another new alarm is occurred, the pop up message will update to the latest alarm.
• A sign [A] will be shown and blink in Summary Pages as long as the alarm has not been dissolved. If user needs to view current existing alarms, press "ALARM" key in the summary pages or go to ALARM MENU in MAIN MENU.
• The panel can display up to 20 new alarms at once (which are not dissolve yet).
• All the incoming new alarms record will be store in ALARM MENU – Show Alarms.
• The alarm histories are viewable ONLY when all the new alarm already dissolved.
• If the contact type alarm is set to manual reset, the alarm can only be dissolved by off and on BACK rooftop unit.

Error Message	Possible causes	Action
1. MB & economizer communication fail	Communication wires not connected	Connect correctly and operate again.
	External noise / interference	Avoid from noise source / add ferrite core.
	Main PCB / Economizer PCB faulty	Replace main PCB / economizer PCB.
2.Memory Error	EEPROM data corrupted	Replace main PCB and operate again.
3.Economizer Error	Refer to the economizer board error code table.	Refer to the economizer board error code table.
4.ESD contact open	Normally close ESD contact become open	ESD contact shorted with wired. If fail, replace main board and operate again.
5.Compressor 1 / 2 overload	Insufficient airflow / Air short circuit	Ensure no obstacle around the unit.
	Heat exchanger dirty	Ensure no dirt or dust on filter and coil.
	Refrigerant overcharge / undercharge	Recharging with correct amount of refrigerant.
	Condenser fan motor faulty	Replace fan motor.
	EXV or EXV PCB defective	Replace EXV or EXV PCB.
	Compressor malfunction	Replace compressor.
	Main PCB faulty	Replace main PCB.
6.Compressor 1 / 2 low pressure trip	Refrigerant undercharge	Top up with correct amount of refrigerant.
	Pressure switch faulty	Replace pressure switch.
	Main PCB faulty	Replace main PCB.
7.Compressor 1 / 2 high pressure trip	Insufficient airflow / Air short circuit	Ensure no obstacle around the unit.
	Heat exchanger dirty	Ensure no dirt or dust on filter and coil.
	Condenser fan motor faulty	Replace fan motor.
	Refrigerant overcharge	Recharging with correct amount of refrigerant.
	EXV or EXV PCB faulty	Replace EXV or EXV PCB.
	High Pressure switch faulty	Replace pressure switch.
	Main PCB faulty	Replace main PCB.
8.Compressor 1 / 2 discharge overheat	Discharge sensor malfunction	Replace new discharge sensor.
	Insufficient airflow / Air short circuit	Ensure no obstacle around the unit.
	Heat exchanger dirty	Ensure no dirt or dust on filter and coil.

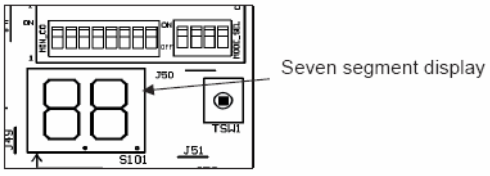
	Condenser fan motor faulty	Replace fan motor.
	Main PCB faulty	Replace main PCB.
9.Disconnection of discharge thermistor 1 / 2	Poor sensor connection	Connect correctly and operate again.
10. Heat Exchanger 1 / 2 high temperature	Discharge sensor malfunction / poor sensor connection	Connect sensor correctly / replace sensor.
	Insufficient Air Flow / Air Short Circuit	Ensure no obstacle around the unit.
	Heat Exchanger Dirty	Ensure no dirt or dust on filter and coil.
	Condenser fan motor faulty	Replace new motor
	Compressor malfunction	Replace new compressor.
	EXV or EXV PCB faulty	Replace new EXV.
	Main PCB faulty	Replace main PCB.
11. Indoor HEX 1 / 2 abnormal temperature	Poor coil sensor connection	Connect sensor correctly / replace new sensor.
	Compressor malfunction	Replace new compressor.
	Leaking in piping joint	Fix the leak point / Change coil.
	EXV or EXV PCB faulty	Replace new EXV.
	Main PCB faulty	Replace main PCB.
12. Indoor fan overload	Motor internal over current protection faulty	Replace indoor fan motor.
	Winding resistance out of spec	
	Fan motor short body	
	Main PCB faulty	Replace main PCB
13. Return air sensor short / open	Faulty Sensor / Poor sensor connection	Connect sensor correctly / replace sensor.
14. Outdoor air sensor short / open	Faulty Sensor / Poor sensor connection	Connect sensor correctly / replace sensor.
15. Comp discharge sensor 1 / 2 short	Faulty Sensor / Poor sensor connection	Connect sensor correctly / replace sensor.
16. Comp discharge sensor 1 / 2 open	Faulty Sensor / Poor sensor connection	Connect sensor correctly / replace sensor.
17. Outdoor HEX sensor 1 / 2 short	Faulty Sensor / Poor sensor connection	Connect sensor correctly / replace sensor.
18. Outdoor HEX sensor 1 / 2 open	Faulty Sensor / Poor sensor connection	Connect sensor correctly / replace sensor.
19. Indoor HEX sensor 1 / 2 short	Faulty Sensor / Poor sensor connection	Connect sensor correctly / replace sensor.
20. Indoor HEX sensor 1 / 2 open	Faulty Sensor / Poor sensor connection	Connect sensor correctly / replace sensor.

There are two LEDs in economizer controller board, which are green LED and red LED. Green LED will blink when economizer controller board is powered-up. Red LED will blink when error(s) occur. Refer the table below for error codes and their meaning:-

Error Code	Fault
F0	Fresh air actuator faulty/ malfunction
F1	Return air actuator faulty/ malfunction
F2	Communication error
F3	CO_2 sensor short
F4	CO_2 sensor open
F5	Fresh air RH sensor short
F6	Fresh air RH sensor open
F7	Return air RH sensor short
F8	Return air RH sensor open
F9	Activation of actuator protection
FA	Multiple pins selection in Dip Switch 1, 2 or 3

Note:

The error codes will be shown on the seven segment display on the economizer controller board.

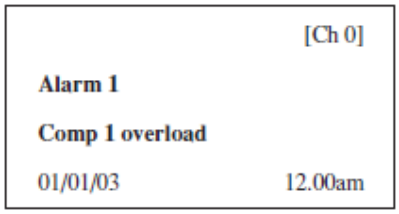


Note:

All the errors occur in economizer controller board will not affect the normal operation of rooftop unit.

Chiller Panel – Air Cooled Mini Chiller

When malfunctioning occurred, the display LCD will blink. The display will show the faulty parameter and the date and time of the occurrence.

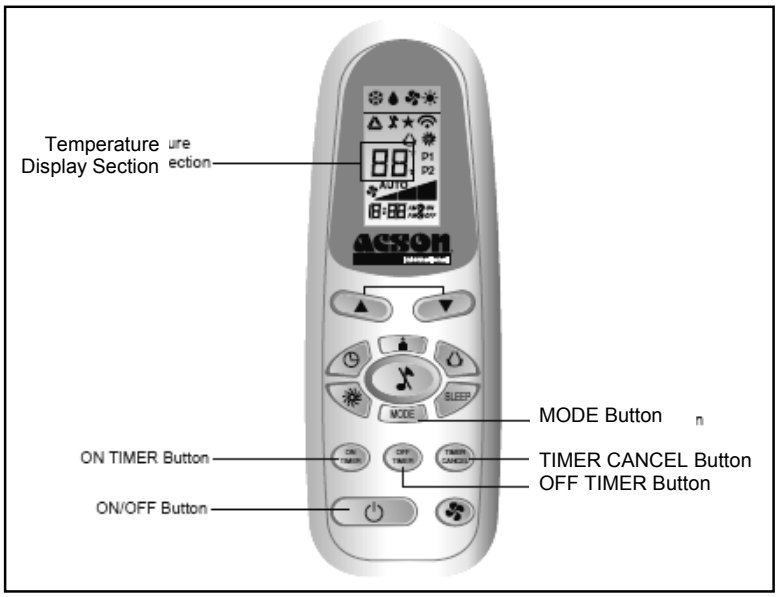


When a malfunction of the unit is detected, immediately switch off the main power supply before proceeding with the following troubleshooting procedures.

Error Code

ERROR DISPLAY	ERROR DESCRIPTION	RESET (default)	CONTROL MEASURE				
			PUMP	SYSTEM1		SYSTEM 2	
				COMP	FAN	COMP	FAN
Phase Missing	Phase missing	Manual	OFF	OFF	OFF	OFF	OFF
Phase Seq Error	Wrong phase sequencing	Manual	OFF	OFF	OFF	OFF	OFF
Memory Error	EEPROM read/write error	Auto	OFF	OFF	OFF	OFF	OFF
Entering Water sensor Open/Short	BPHE water in sensor error	Auto	OFF	OFF	OFF	OFF	OFF
Leaving water sensor Open/Short	BPHE water out sensor error	Auto	OFF	OFF	OFF	OFF	OFF
Outdoor Air sensor Open/Short	Ambient temp sensor error	Auto	OFF	OFF	OFF	OFF	OFF
Water Flow Error	Cv contact opened	Manual	OFF	OFF	OFF	OFF	OFF
Cool Mode Antifreeze	Leaving water temp too low	Auto	OFF	OFF	OFF	OFF	OFF
OV/UN Voltage	Comp High Voltage (>490V)	<460V, Auto	OFF	OFF	OFF	OFF	OFF
OV/UN Voltage	Comp Low Voltage (<310V)	>340V, Auto	OFF	OFF	OFF	OFF	OFF
Pump Overload	Pump OLP closed	Auto	OFF	OFF	OFF	OFF	OFF
IPM Error	IPM over-current or overheat	Auto	-	OFF	OFF	-	-
Comp 1 Overload	Comp 1 overload	Auto	-	OFF	OFF	-	-
Comp 1 Discharge Overheat	Comp 1 discharge overheat	Auto	-	OFF	OFF	-	-
High Pressure 1	System 1 high pressure	Auto	-	OFF	OFF	-	-
Low Pressure 1	System 1 low pressure	Auto	-	OFF	OFF	-	-
Comp 1 Defrost sensor Open/Short	Coil out system 1 sensor error	Auto	-	OFF	OFF	-	-
Comp 1 Suct sensor Open/Short	Suction comp system 1 sensor error	Auto	-	OFF	OFF	-	-
Comp 1 Discharge sensor Open/Short	Discharge comp system 1 sensor error	Auto	-	OFF	OFF	-	-
Coil 1 Inlet Temp Open/Short	Coil In system 1 sensor error	Auto	-	OFF	OFF	-	-
V-Hx Inlet Temp sensor Open/Short	BPHE refrigerant in sensor error	Auto	-	OFF	OFF	-	-
V-Hx Outlet Temp Open/Short	BPHE refrigerant out sensor error	Auto	-	OFF	OFF	-	-
Comp 2 Overload	Comp 2 overload	Auto	-	-	-	OFF	OFF
High Pressure 2	System 2 high pressure	Auto	-	-	-	OFF	OFF
Low Pressure 2	System 2 low pressure	Auto	-	-	-	OFF	OFF
Comp 2 Defrost sensor Open/Short	Coil out system 2 sensor error	Auto	-	-	-	OFF	OFF
Comp 2 Discharge sensor Open/Short/Overheat	Discharge comp system 2 sensor error	Auto	-	-	-	OFF	OFF

G17 – Inverter Y Models



Diagnosis Step

1. Hold down TIMER CANCEL button for 5 seconds, a "00" indication flashes on the temperature display section.
2. Press TIMER CANCEL repeatedly until indoor buzzer produces a long beep. This indicates the error code, refers to Error Codes table and is displayed on the temperature display section.
3. A short beep or two consecutive beeps indicate non-corresponding error codes.
4. To cancel the error code display, hold down TIMER CANCEL button for 5 seconds. Alternatively, the code display will cancel itself if the button is not pressed for 1 minute.

Error Code Diagnosis by Unit Last State Memory

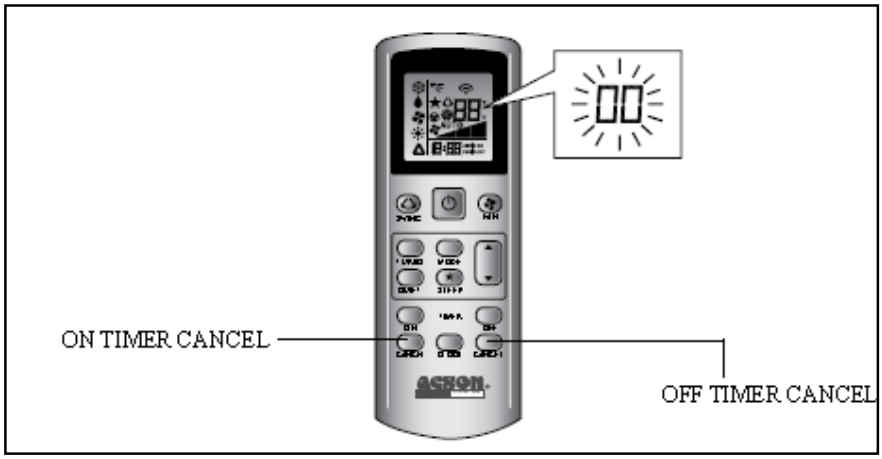
(A) Wireless Handset G17

1. Remove battery from remote controller
2. Replace battery again into remote controller
3. Press Mode & ON/OFF buttons together
4. Press Mode button to 5:00
5. Press ON/OFF once
6. Repeat the fault diagnosis steps

(B) Wired Handset Netware3C

1. Press SLEEP and TIMER ACTIVE buttons together for 5s
2. Panel will blink LED twice and beep buzzer
3. If there is an error code, Minutes column "00" will be replace by blinking "Er" and error code will be shown on the right of fan speed indicator area for 60s before return to normal operation
4. During this 60s, the interval keypad will be locked
5. However, user is allowed to terminate this waiting state by pressing SLEEP and TIMER ACTIVE buttons again for 5s or simply pressing ON/OFF button.

GS01 – Inverter Y Models



Diagnosis Step

1. Hold down ON TIMER CANCEL button or OFF TIMER CANCEL button for 5 seconds, a " 00 " indication flashes on the temperature display section.
2. Press TIMER CANCEL repeatedly until indoor buzzer produces a long beep. This indicates the error code, refers to Error Codes table and is displayed on the temperature display section.
3. A short beep or two consecutive beeps indicate non-corresponding error codes.
4. To cancel the error code display, hold down ON TIMER CANCEL button or OFF TIMER CANCEL button for 5 seconds. Alternatively, the code display will cancel itself if the button is not pressed for 1 minute.

Error Code Diagnosis by Unit Last State Memory

1. Remove battery from remote controller
2. Replace battery again into remote controller
3. Press Mode & ON/OFF buttons together
4. Press Mode button to 5:00
5. Press ON/OFF once
6. Repeat the fault diagnosis steps by wireless handset GS01

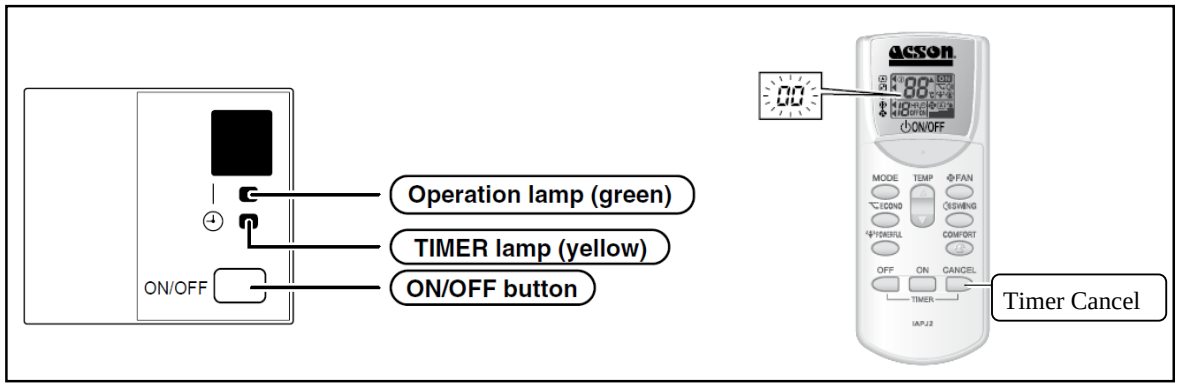
Error Codes for G17 and GS01 – Inverter Y Models

Error Codes	Error Description
00	Normal
U0	Insufficient gas
U2	DC voltage out of range
U4	Communication error
U7	Signal transmission error (on outdoor unit PCB)
UA	Installation error
UF	Communication Error (indoor and outdoor) piping and wiring
UH	Anti-freeze function in other room
A1	Indoor PCB error
A3	Water pump error
A5	Antifreeze
A6	Indoor fan motor abnormal
C4	Indoor heat exchanger thermistor short/ open
C9	Indoor room thermistor short/ open
E1	Outdoor PCB error
E3	High pressure protection
E4	Low pressure protection
E5	Compressor motor lock
E6	Compressor start-up error
E7	Outdoor DC fan motor lock
E8	Ac input over current
E9	EXV error
EA	4-way valve error

Error Codes	Error Description
F3	Discharge pipe overheat
F6	Heat exchanger overheat
H0	Compressor sensor system abnormality
H3	High pressure switch error
H6	Position sensor abnormality
H8	AC current sensor error
H9	Outdoor air thermistor short / open
J1	Pressure sensor error
J3	Compressor discharge pipe thermistor short /open / misplaced
J5	Suction pipe thermistor short/ open
J6	Outdoor heat exchanger
J7	Subcooling heat exchanger thermistor short/ open
J8	Liquid pipe thermistor short/ open
J9	Gas pipe thermistor abnormality
LC	Communication error (control PCB and inverter PCB)
L1	Outdoor PCB error
L3	Electrical box temperature rise
L4	Heat sink overheat
L5	IPM error / IGBT error
L9	Stall prevention
P1	Open phase or voltage unbalance
P4	Heat sink thermistor short / open
PJ	Capacity setting error

APJ1 -M5WMY10/15KR

Indoor LED Indication



The **operation lamp** (green) flashes when any of the following errors is detected.

1. When a protection device of the indoor or outdoor unit is activated or when the thermistor malfunctions, disabling equipment operation.
2. When a signal transmission error occurs between the indoor and outdoor units.

Diagnosis Step

1. Hold down TIMER CANCEL button for 5 seconds, a "00" indication flashes on the temperature display section.
2. Press TIMER CANCEL repeatedly until indoor buzzer produces a long beep. This indicates the error code, refers to Error Codes table and is displayed on the temperature display section.
3. A short beep or two consecutive beeps indicate non-corresponding error codes.
4. To cancel the error code display, hold down TIMER CANCEL button for 5 seconds. Alternatively, the code display will cancel itself if the button is not pressed for 1 minute.

Error Codes:

Error Code	Description
SYSTEM	
00	Normal
UA	Indoor-Outdoor combination fault
U0	Refrigerant Shortage
U2	Drop voltage or main circuit overvoltage
U4	Failure of transmission (between indoor and outdoor unit)
INDOOR UNIT	
A1	Indoor PCB defectiveness
A5	High pressure control or freeze-up protector
A6	Fan motor fault
C4	Faulty heat exchanger temperature sensor
C9	Faulty suction air temperature sensor
OUTDOOR UNIT	
EA	Cooling-Heating switching error
E1	Circuit board fault
E5	OL started
E6	Faulty compressor start up

Error Code	Description
OUTDOOR UNIT	
E7	DC fan motor fault
E8	Over current input
F3	High temperature discharge pipe control
F6	High pressure control (in cooling)
H0	Sensor fault
H6	Operation fault due to faulty position detection sensor
H8	DC current sensor fault
H9	Faulty suction air temperature sensor
J3	Faulty discharge pipe temperature sensor
J6	Faulty heat exchanger temperature sensor
L3	Electrical Part heat fault
L4	High temperature at Inverter circuit heat sink
L5	Output over current
P4	Faulty Inverter circuit heat sink temperature sensor

7.3 MDS Diagnosis

(A)Indoor Units

Model	Board	Handset
A(5)WMD 09/10/15/20/25 G	MC201-C	G17
A(5)CKD 20/25/30/40/50 A	MC201-C	G17
A(5)CKD 10/15/20 C	MC201-C	G17
A(5)CMD 20/25/28 E	MC201-C	G17
A(5)CMD 40/50 D	MC201-C	G17
A(5)CMD 62 C	MC201-C	G17
A(5)CCD 10/15/20/25/30/40/50/60 C	MC201-C	MC301
A(5)DBD 80/100	MC201-A	MC301

Error Diagnosis by Indoor Unit LED Indicator

ITEM	TYPE	COOL / HEAT (Green / Red)	SLEEP / FAN (Red / Orange)	TIMER / DRY (Orange)
1	Indoor Sensor Error	●	●	◉
2	Indoor Pump Error	●	◉	●
3	Communication Error	◉	●	●
4	Outdoor Sensor Error	●	◉	◉
5	Compressor Overload	◉	●	●
6	Pressure Switch Trip	◉	●	◉
7	Pressure Sensor Error	◉	◉	○
8	System Failure	◉	◉	◉
9	Others	◉	○	○

● OFF ○ ON ◉ BLINK

Error Diagnosis by Wired Controller (MC301)

ITEM	CODE	DESCRIPTION
1	*E0*	System malfunction
2	*E1*	Sensor Broken (TH1 discharge Temp.)
3	*E2*	Sensor Broken (TH2 inlet coil 1#)
4	*E3*	Sensor Broken (TH3 mid coil 1#)
5	*E4*	Sensor Broken (TH4 inlet coil 2#)
6	*E5*	Sensor Broken (TH5 mid coil 2#)
7	*E6*	Sensor Broken (TH6 inlet coil 3#)
8	*E7*	Sensor Broken (TH7 mid coil 3#)
9	*E8*	Sensor Broken (TH8 ambient temp)
10	*E9*	Sensor Broken (TH9 outlet coil)
11	*EA*	Sensor Broken (TH10 subcool outlet)
12	*EB*	Sensor Broken (TH11 subcool suction)
13	*EC*	Sensor Broken (TH12 suction)
14	*EF*	Emergency Run
15	*F0*	Outdoor Storage Malfunction
16	*F1*	Sensor Broken (indoor inlet coil)
17	*F2*	Sensor Broken (indoor mid coil)

Error Diagnosis by Wired Controller (MC301)

ITEM	CODE	DESCRIPTION
18	*F3*	Sensor Broken (indoor outlet coil)
19	*F4*	Sensor Broken (indoor return air)
20	*F5*	Sensor Broken (indoor supply air)
21	*F6*	Indoor and controller communication malfunction
22	*F7*	Ambient temp exceed the limit
23	*F8*	4WV malfunction
24	*F9*	Refrigerant leakage
25	*FA*	Controller storage malfunction
26	*FB*	Water Pump (indoor water pump)
27	*FC*	Indoor and outdoor communication malfunction
28	*FE*	Master and slave communication malfunction
29	*H0*	Digital comp overload
30	*H1*	Fixed Comp1 overload
31	*H2*	Fixed Comp2 overload
32	*H3*	Fixed Comp3 overload
33	*H4*	High pressure too high
34	*H5*	Sensor broken, high pressure
35	*H6*	Discharge temp too high
36	*L0*	Super heat too low
37	*L1*	Low pressure too low
38	*L2*	Sensor broken, low pressure
39	*10*	System malfunction
40	*11*	Sensor broken (slave TH1 discharge temp)
41	*12*	Sensor broken (slave TH2 inlet coil 1#)
42	*13*	Sensor Broken (slave TH3 mid coil 1#)
43	*14*	Sensor broken (slave TH4 inlet coil 2#)
44	*15*	Sensor broken (slave TH5 mid coil 2#)
45	*16*	Sensor broken (slave TH6 inlet coil 3#)
46	*17*	Sensor broken (slave TH7 mid coil 3#)
47	*18*	Sensor broken (slave TH8 ambient temp)
48	*19*	Sensor broken (slave TH9 outlet coil)
49	*1A*	Sensor broken (slave TH10 subcool outlet)
50	*1B*	Sensor broken (slave TH11 subcool suction)
51	*1C*	Sensor Broken (slave TH12 suction)
52	*1F*	Emergency run (slave)
53	*20*	Outdoor storage (slave)
54	*27*	Ambient temp exceed the limit (slave)
55	*28*	4WV malfunction (slave)
56	*29*	Refrigerant leakage (slave)
57	*30*	Digital comp overload (slave)
58	*31*	Fixed comp1 overload (slave)
59	*32*	Fixed comp2 overload (slave)
60	*33*	Fixed comp 3 overload (slave)
61	*34*	High pressure too high (slave)
62	*35*	Sensor broken, high pressure (slave)
63	*36*	Discharge temp too high (slave)
64	*40*	Super heat too low (slave)
65	*41*	Low pressure too low (slave)
66	*42*	Sensor broken, low pressure (slave)

(B) Outdoor Units

Model	Board	Handset
MDS 30/40/50/60/70 A/AR	V4.0 – V4.5	G17/ MC301
MDS 80/100/120/150/180/200/240/ 260/300/320 B/BR	V2.0 – V2.7	G17/ MC301
5MDS 80/100/120/140/160/180/ 200/220/240/260/280/300/320/340/360 /380/400/420/440/460/480/500 B/BR	V2.1A – V2.6A	G17/ MC301

Error code diagnosis by PCB four Digit 7-Segment

MDS-A Series:

ITEM	CODE	DESCRIPTION
1	*E0*	Discharge temperature sensor malfunction
2	*E1*	Outdoor ambient temperature sensor malfunction
3	*E2*	Suction temperature sensor malfunction
4	*E3*	Compressor base temperature sensor malfunction
5	*E4*	Coil inlet temperature sensor malfunction
6	*E5*	Coil middle temperature sensor malfunction
7	*E6*	Coil outlet temperature sensor malfunction
8	*E7*	Compressor discharge temperature too high > 130ºC
9	*E8*	General system failure
10	*H1*	High pressure trip
11	*H2*	Digital scroll compressor overload
12	*H3*	Fixed scroll compressor overload
13	*L1*	Low pressure trip
14	*C-*	Communication failure between outdoor and all indoors
15	*CX*	"X" indoor no. Particular indoor no communication

MDS-B Series:

ITEM	CODE	DESCRIPTION
0	*EC00*	00## indoor unit communication
1	*EC01*	01# indoor unit communication failure
2~47	….	02~47# indoor unit communication failure
48	*ER48*	Digital Compressor Overload
49	*ER49*	Fix 1 Compressor Overload
50	*ER50*	Fix 2 Compressor Overload
51	*ER51*	Fix 3 Compressor Overload
52	*ER52*	Discharge pressure too high
53	*ER53*	Suction pressure is too low
54	*ER54*	Outdoor unit's IC error
55	*ER55*	System Error
56	*ER56*	Discharge temperature is too high
57	*ER57*	-
58	*ER58*	4 way valve failure
59	*ER59*	Ambient temperature is beyond the limit
60	*ER60*	Emergency run
61	*ER61*	Sub heating is beyond the limit

ITEM	CODE	DESCRIPTION
62	*ER62*	Refrigerant released
63	*ER63*	Slaver outdoor unit communication failure
64	*ER64*	TH1 temperature sensor failure
65	*ER65*	TH2 temperature sensor failure
66	*ER66*	TH3 temperature sensor failure
67	*ER67*	TH4 temperature sensor failure
68	*ER68*	TH5 temperature sensor failure
69	*ER69*	TH6 temperature sensor failure
70	*ER70*	TH7 temperature sensor failure
71	*ER71*	TH8 temperature sensor failure
72	*ER72*	TH9 temperature sensor failure
73	*ER73*	TH10 temperature sensor failure
74	*ER74*	TH11 temperature sensor failure
75	*ER75*	TH12 temperature sensor failure
76	*ER76*	Discharge pressure sensor failure
77	*ER77*	Suction pressure sensor failure
78	*EC78*	All indoor units Communication Failure

For item 0-47, the last two characters indicate which indoor has communication problem.

7.4 General Check

When any air conditioner malfunction is noted, immediately switch off the power supply to the unit and contact the local dealer if necessary.

Problem Symptom	Check Item	Suggested Action
The unit does not work	Check the power supply	Check to make sure that the rated voltage is supplied.
	Check the fuse	Check and replace the fuse.
	Check the remote controller timer setting	Make sure the delay timer is set correctly.
Fan does not work	Check the power supply	Check to make sure that the rated voltage is supplied.
	Check the fan motor capacitor	Check and replace the capacitor.
	Check the fan motor	Check and replace the fan motor.
	Check the switch	Check and change the switch.
Fan work, but compressor does not work	Check if the thermostat setting too high	Reset thermostat.
	Check the compressor capacitor	Check and replace the capacitor.
	Check the compressor	Check and replace the compressor.
	Check the compressor contactor	Check and replace the contactor.
Air conditioner work but cooling not satisfactory	Check if the thermostat setting too high	Reset thermostat.
	Check if the condenser coil dirty	Clean the condenser coil.
	Check the condenser installation condition	Make sure the condenser is installed According to factory's recommendation.
	Diagnosis by service port pressure and operating Current	Check for insufficient refrigerant.
The air flow is too low	Check the air filter	Check and make sure the air filter is clean.
	Check the fan / blower condition	Check and make sure that the fan / blower are in good condition.
The remote controller light is dim	Check the battery	Check and replace the battery.
		Make sure the batteries are correctly inserted.

7.5 General Troubleshooting Guide

By means of pressure readings:

Pressure						Probable Cause
Data / Circuit	Too Low	A Little Low	Normal	A Little High	Too High	
High Side					●	1. Overcharged with refrigerant. 2. Non-condensable gases in refrigerant circuit (eg. Oil) 3. Obstructed air-intake / discharge. 4. Short circuit of hot air at condensing unit.
Low Side					●	
High Side	●					1. Poor compression / no compression (compressor defective). 2. Check valve stick in open position. 3. Reversing valve leaking (for heatpump only).
Low Side					●	
High Side		●				1. Undercharged with refrigerant. 2. Refrigerant leakage. 3. Air filter clogged / dirty (indoor unit). 4. Indoor fan locked (cooling). 5. Defective defrosts control, outdoor coil freeze up (heating). 6. Outdoor fan locked (heating).
Low Side	●					
High Side					●	1. Outdoor fan blocked (cooling). 2. Outdoor coil dirty (cooling). 3. Indoor fan locked (heating). 4. Indoor filter clogged dirty (heating).
Low Side				●		
High Side				●		1. Air intake temperature of indoor unit too high.
Low Side					●	

APPENDIX

A. Resistance – Temperature Characteristics

Type DTN-C1 03F3H-OYL 1128, 1148, 1158
Material Name 3H
Resistance R25=10.000kΩ + 1.0% - 1.0%
B Value B25/30=3450K + 1.0% - 1.0%

t°C	Rmin (kΩ)	Rnom (kΩ)	Rmax (kΩ)	t°C	Rmin (kΩ)	Rnom (kΩ)	Rmax (kΩ)
-10	4.42E+01	4.53E+01	4.65E+01				
-8	4.02E+01	4.12E+01	4.22E+01	42	5.28E+00	5.37E+00	5.45E+00
-6	3.66E+01	3.74E+01	3.83E+01	44	4.92E+00	5.01E+00	5.09E+00
-4	3.33E+01	3.41E+01	3.49E+01	46	4.59E+00	4.67E+00	4.76E+00
-2	3.04E+01	3.11E+01	3.18E+01	48	4.29E+00	4.37E+00	4.42E+00
0	2.78E+01	2.84E+01	2.90E+01	50	4.01E+00	4.09E+00	4.16E+00
2	2.54E+01	2.59E+01	2.65E+01	52	3.75E+00	3.82E+00	3.90E+00
4	2.33E+01	2.37E+01	2.42E+01	54	3.51E+00	3.58E+00	3.65E+00
6	2.14E+01	2.18E+01	2.21E+01	56	3.29E+00	3.36E+00	3.43E+00
8	1.96E+01	2.00E+01	2.03E+01	58	3.08E+00	3.15E+00	3.22E+00
10	1.80E+01	1.83E+01	1.86E+01	60	2.89E+00	2.96E+00	3.01E+00
12	1.66E+01	1.69E+01	1.71E+01	62	2.71E+00	2.78E+00	2.84E+00
14	1.53E+01	1.55E+01	1.57E+01	64	2.55E+00	2.61E+00	2.67E+00
16	1.41E+01	1.43E+01	1.45E+01	66	2.40E+00	2.45E+00	2.51E+00
18	1.30E+01	1.32E+01	1.33E+01	68	2.25E+00	2.31E+00	2.37E+00
20	1.20E+01	1.22E+01	1.23E+01	70	2.12E+00	2.17E+00	2.23E+00
22	1.11E+01	1.12E+01	1.14E+01	72	2.00E+00	2.05E+00	2.10E+00
24	1.03E+01	1.04E+01	1.05E+01	74	1.88E+00	1.93E+00	1.98E+00
26	9.52E+00	9.62E+00	9.72E+00	76	1.77E+00	1.82E+00	1.87E+00
28	8.82E+00	8.92E+00	9.02E+00	78	1.67E+00	1.72E+00	1.77E+00
30	8.17E+00	8.27E+00	8.37E+00	80	1.58E+00	1.62E+00	1.67E+00
32	7.58E+00	7.68E+00	7.78E+00	82	1.49E+00	1.53E+00	1.58E+00
34	7.04E+00	7.14E+00	7.23E+00	84	1.41E+00	1.45E+00	1.49E+00
36	6.54E+00	6.64E+00	6.73E+00	86	1.33E+00	1.37E+00	1.41E+00
38	6.09E+00	6.18E+00	6.27E+00	88	1.26E+00	1.30E+00	1.34E+00
40	5.67E+00	5.75E+00	5.84E+00	90	1.19E+00	1.23E+00	1.27E+00

B. MDS Compatibility

Indoor PCB vs Wired Handset MC301

MC301 / Indoor PCB	B1.5	B1.6	B.17	B1.8	B1.9	B2.0	B2.1
mc201_2.0	■	■	■	■	■	■	■
mc201_2.1	■	■	■	■	■	■	■
mc201_2.2	■	■	■	■	■	■	■
mc201_2.3	■	■	■	■	■	■	■
mc201_2.4	■	■	■	■	■	■	■
mc201_2.5	■	■	■	■	■	■	■
mc201_2.6						■	■
mc201_2.7						■	■

Indoor PCB vs Outdoor PCB

MDS-A/B 7HP and Below:

	R22 / R410A					
Outdoor PCB / Indoor PCB	V4.0	V4.1	V4.2	V4.3	V4.4	V4.5
mc201_2.0	■	■	■	■	■	■
mc201_2.1	■	■	■	■	■	■
mc201_2.2	■	■	■	■	■	■
mc201_2.3	■	■	■	■	■	■
mc201_2.4	■	■	■	■	■	■
mc201_2.5	■	■	■	■	■	■
mc201_2.6	■	■	■	■	■	■
mc201_2.7	■	■	■	■	■	■

Remark: When V4.5 replacing V4.4 or below, discharge temperature sensor shall be changed to MIN JIE brand.

MDS-B 8HP and Above:

	R22								R410A						
Outdoor PCB / Indoor PCB	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.1A	2.2A	2.3A	2.4A	2.5A	2.6A	2.8A
mc201_2.0	■	■	■	■	■	■	■	■							
mc201_2.1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
mc201_2.2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
mc201_2.3	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
mc201_2.4	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
mc201_2.5	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
mc201_2.6	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
mc201_2.7	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Remark: 1) When 2.6-2.7 replacing 2.5 or below and 2.5A-2.6A replacing 2.4A or below,
i) The discharge temperature sensor shall be MIN JIN brand.
ii) MIN JIE discharge temperature sensor shall be added to the slave unit's main discharge pipe.
When 2.4-2.7 replacing 2.3 or below, dip switch setting for outdoor capacity might be different, details please refer to Appendix B.

■ Compatible ☐ Not Compatible

Note: **ONLY** lower version PCB can be replaced by higher version; vice-versa is not allowable.

C. MDS Outdoor Capacity Dip Switch Setting

MDS-B PCB version 2.3 and below:

Dip Switch	S3.1	S3.2	S3.3	S3.4
8HP	0	0	0	0
10HP	0	0	0	1
12HP	0	0	1	0
15HP	0	0	1	1
18HP	0	1	0	0
20HP	0	1	0	1
22HP	0	1	1	0
26HP	0	1	1	1
28HP	1	0	0	0
32HP	1	0	0	1

MDS-B PCB version 2.4 and above:

Dip Switch	S2.3	S3.1	S3.2	S3.3	S3.4
8HP	0	0	0	0	0
10HP	0	0	0	0	1
12HP	0	0	0	1	0
15HP	0	0	0	1	1
14HP	1	0	1	0	1
16HP	1	0	1	1	0
18HP	0	0	1	0	0
20HP	0	0	1	0	1
22HP	0	0	1	1	0
24HP	0	0	1	1	1
26HP	0	1	0	0	0
28HP	0	1	0	0	1
30HP	0	1	0	1	0
32HP	0	1	0	1	1
34HP	0	1	1	0	0
36HP	0	1	1	0	1
38HP	0	1	1	1	0
40HP	0	1	1	1	1
42HP	1	0	0	0	0
44HP	1	0	0	0	1
46HP	1	0	0	1	0
48HP	1	0	0	1	1
50HP	1	0	1	0	0

D. Cable Length of Wired Handset

No.	Wired Handset	Cable Type	Cable Length (m)		
			Standard	Optional	Maximum
1	SLM 3	UL2547 AWG26	2.2m, 7m	10m, 15m	20m
2	Netware 3	UL2547 AWG26	10m	15m	20m
3	Netware 3C	UL2547 AWG26	10m	15m	20m
4	SQ-LCD	UL2547 AWG26	Not Provided	Not Provided	100m
5	Chiller Panel	UL2547 AWG26	2m	Not Provided	960m
6	RT Panel	UL2547 AWG26	15m	Not Provided	960m
7	SLM 9	UL2547 AWG26	10m	Not Provided	15m
8	MC301	UL2547 AWG24	10m	Not Provided	10m
9	MC303	RS485 AWG20	20m	Not Provided	1000m

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